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LECTURES BY M. DE BLAINVILLE ON COMPARATIVE OSTEOLOGY.

THE

COMPARATIVE OSTEOGRAPHY

OF THE

SKELETON AND DENTAR SYSTEM

IN THE FIVE CLASSES OF

VERTEBRAL ANIMALS,

RECENT AND FOSSIL.

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WITH GRAPHIC DELINEATIONS BY M. WERNER;

EDITED (FROM THE FRENCH) AND

ADDITIONALLY ILLUSTRATED

WITH NUMEROUS NOTES, OBSERVATIONS, AND DRAWINGS,

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GALEN, whose object in speaking of Apes was entirely different from that of most of the ancients, and who, in fact, viewed them merely anatomically, mentions them also amongst those animals which may be dissected instead of the human body. First, the Pithecus, with the small tail, or the Magot; and then, if it cannot be obtained, the Cynocephalus, the Sphinx, and even the Lynx, which proves that if the ancients have frequently, as Aristotle did, applied the term Lynx to a species of Felis, they occasionally apply the same term to a quadrumanous animal; but it is extremely difficult to decide, if the term could be applied to any other species differing from those mentioned above; in fact, it is only by means of this passage in Galen, and another in Pliny, in which the Lynx is associated with the Sphinx, as very common in Ethiopia, which makes it evident that the term Lynx was at times applied by the ancients to an Ape.

As we leave the epoch of historians and geographers of the first ages of our era, the information requisite to clear up the question which now engages our attention becomes less and less important, and less and less satisfactory. Certain authors may have introduced some new names to designate a peculiarity of some Ape, described before their day, but evidently fabricated.

In this way Philostorgus, a Greek writer, and author of an Ecclesiastical History from 320 to 425, when he lived under the reign of Theodocius the younger, invented the following names, found also in Nicephoros Callistes, another Greek writer of the fourteenth era, but a plagiarist from Philostorgus, viz.,

Leontopithecos, as applied to an Ape, from the form of its tail terminated by a brush of hair.

Ægopithecos, to designate a compound of the Ape and Goat; or rather, as having a beard like a Goat.

Arctopithecos (Book iii. cap. 2, p. 40) meaning an Ape, no doubt, whose length of hair made it resemble a Bear. Like his predecessors, he employed the terms *Sphinx* and *Cynocephalos*.

Yet Philostorgus gave a description of the Sphinx which induced M. G. Cuvier, in his Notes on Pliny, vol. vi., p. 425, to say that it applied very well to the Chimpanzée, but admitting it to be sufficiently vague, so as to be applied equally to most of the large Guenons.

The *Cercolopis* of Festus (*De Verborum Significatione*, lib. iii. p. 75) is in the same case as the *Leontopithecos* of Philostorgus; in fact, his definition (genus Simiæ quod ultimam partem caudæ villosam habet) agrees altogether with the Ape of which we have spoken. The same grammarian applies the term Clunæ, to indicate the species which have callosities *a clunibus tritis*.

Isidore of Seville (lib. xii. De Brutis Animalibus, cap. 29, de Bestiis,) abridging chiefly what Pliny and Solin had said, limits himself to giving the etymology of the word Simia; and by remarking that there are five species of Apes, the *Cercopithecus*, *Simia*, *Sphinx*, *Cynocephalus*, and *Callithrix*; so that, recapitulating all that the ancients have said posteriorly respecting the Apes, the only animals of the order Primates they could

possibly know, we may give the following conclusions as pretty nearly certain.

Among the species which they knew best, were those which still are the most commonly known in Europe; that is to say, from Upper Egypt, Abyssinia, and Nubia, the shores of the Red Sea, and the Western part of Africa.

1. The Magot (*P. Innus*) which was the Pithecos of the Greeks and the Simia of the Romans, from which they unquestionably drew all their observations respecting the organisation and habits of these animals.

2. The *Pithecus* Cynocephalus and Hamadryas, still so common in Nubia and Abyssinia, including, no doubt, the Sphinx and the Satyr, being the young and the female of the same species, the most frequent amongst the Egyptians, as they still are; the Hamadryas being considered sacred by them, and forming a part of their symbolic and hieroglyphic writings.

3. A species of the Guenon, with a long tail (*Pithecus Ruber*), also Ethiopian, still common in Abyssinia, called *Kebos* by the Greeks, *Cebus* and *Cephus* by the Romans; terms derived by Bochart from the name of a country: apparently also sacred to the Egyptians, and figured on some of their monuments.

4. The *Grivet* (*P. Subviridis*, F. Cuv.) another species of Guenon, but smaller, sometimes figured in Egyptian paintings, perhaps the Callithrix of Pliny, and observed and described by MM. Caillaud and Ehrenberg in Nubia, called *Subviridis* by the former and Sabœa by the latter.

The ancients, and that from the time of Alexander's conquests, knew only by tradition the following species:—

1. The *Entellus*, the white Ape of India.

2. The *Ouandérou* (*P. Silenus*, Linn.) the black Ape, the bearded Cynocephalus, the lion-tailed Ape.

They were altogether ignorant of the following species, viz.:

1. The Orang-Outan (*P. Satyrus*), whatever may be said to the contrary by Camper, and the Satyrs not included in their mythology, were probably merely the adult Magot.

2. The ash-coloured Gibbon, or Wow-Wow (*P. Lasciscus*).

3. The Chimpanzée (*P. Troglodytes*) contrary to the opinion of Lichtenstein.

There are some slight grounds for supposing the Sphinx of Philostorgus was the Chimpanzée, as M. G. Cuvier thought, he admitting, at the same time, however, that there was nothing convincing in the facts.

The supposition that the savages named Gorilles (of which Hannon, in the account of the voyage ascribed to him, caught only three females, and whose skins he forwarded to Carthage) were really Chimpanzées, was much less happy. Admitting as true, that this people dwell in a mountainous island in a lake, which lake was in the middle of an island, situated on the west coast of Africa, a geographical fact as yet absolutely unknown, it is sufficient to observe, that the Carthagenian General says, positively, that these were human beings, and not animals; and that it is not a sufficient reason to place them on a level with beasts, that the women, who alone were caught—the men having escaped to the mountains—defended themselves with their teeth and nails, and showed no disposition to follow kindly their ravisher, who had the barbarity to slay them.

These conclusions seem to me confirmed by what the ancients have left us of the representations of animals in some of the works of art hitherto collected.

Leaving out of consideration the fantastic figures of the rural deities called Satyrs, Faunes, Sylvians, Pan, Ægyans, Sphinx, which Egyptian, Greek, and Roman artists have offered as representing these deities, and which it may be said, by-the-by, give no indication that their origin had been derived from the larger Apes, as is very generally supposed, we know not why; it may be said that no monument represents a single animal of this order of mammals, with the exception of the celebrated Mosaic of Palestine; at least I am acquainted with no archeologist who has quoted a bas relief, engraved stone, or single coloured painting, representing, for example, after Ovid, the metamorphoses by Jupiter of the Cercopes, inhabitants of the Island of Enarime, or Pithecuse, into Apes, on account of their wickedness and their bad faith to him. However, amongst the children's toys, which the Greeks put into the tombs, M. Raoul Rochette, in his "Memoir sur les Antiquites Chretiennes des Catacombes, Acad. des Inscript," tom. xiii., p. 545 and 625, mentions little figures of Apes, but, without doubt, so coarsely drawn as to prevent the species being identified, and besides, they were drawings of animals *foreign* to Greece.

In respect to the Mosaic of Palestrine, which represents, as Barthelemy has shown, the journey of Adrian into Upper Egypt, which the artist has most ingeniously expressed by the productions of the countries, and even by the chief occupations of the inhabitants, there may be remarked in the number of animals figured several Apes, and often with a proper name written above or below the figure. I notice, first, a small Ape, clearly drawn, at least in Barthelemy's engraving, having a rounded head, very short muzzle, ears, and limbs of human proportions, and without a tail; the figure is seated on a rock. This figure, which resembles greatly a young Magot, has no longer any name written under it; but Barthelemy says, at p. 533 of his Memoir, that the name was lost in removing the Mosaic, and that Suares, who saw it in the drawing of Del Pozzo, asserts it to have been *Cattyak*, which Barthelemy corrects, very suitably, into *Catyros*.

Some have supposed this figure to represent the Chimpanzée, but the limbs resemble rather the young Magot, a species which was certainly known to the ancients.

Another figure of an Ape, easily recognised, sitting in a very natural position, with one of its pelvic limbs hanging down, without a tail, a somewhat projecting muzzle, the mouth open, and the ears large; this figure may be referred to the same species, but adult. This figure, equally without a name, is placed above that of the Crocodile, but which clearly belongs to an animal found below.

I think we may also consider as a young Magot, another small Ape, drawn crouching, huddled up like a child, looking at the Onocentaur over its right shoulder; it is also without a tail, and has a long muzzle; there is no inscription.

Let us now consider the figures which are named on the Mosaic.

Under that of *Koiropithecos*, a word used by Aristotle only, is represented a four-footed animal, with a heavy and short body, muzzle like a pig, tail equally short and curled up, robust limbs, thick and short; ears short, round, and flat, with ill-defined fingers, and in which it is difficult even to recognise an Ape, although the general aspect and the tail resembles somewhat the Baboon, or rather the Mandril.

Barthelemy, in his memoir, confines himself to the remark, that this title of Pig-Ape does not correspond well to the figure over which it is placed, if it be true, as Aristotle has said, that there is a resemblance between the head of the Chameleon and that of the Cheropithecus; consequently, M. Marcel de Serres is disposed to consider this figure as a species of the Pig, which may have disappeared, or of some analogous genus. On the other hand, it may be simply imagined, with a greater probability of truth, that the whole is a mere fiction of the artist.

The name of *Lynx* is applied over a figure, which, if it be exact, resembles some Guenons sufficiently high in the scale. Its position is oblique, the face human and flat, ears rounded and flattened, tail moderate, the tarsal bones sufficiently long, but close to each other; the fingers and toes unimportant and ill-finished.

The word *Keiros* is written under an animal somewhat resembling a dog hunting amongst thick underwood; but the ears are short, and there is a kind of mane round the neck, and as, besides this, the muzzle appears to be moderate, it is easy to see how it might have been taken for an Ape. Barthelemy seems even to have believed, though contradictorily, as appears to me, in the description which Elian gave of it, that this was the *Kebos* of the ancients; and this, no doubt, led M. G. Cuvier to suppose that the Cebus was not a Guenon, as all previous zoologists had believed, but the *P. Hamadryas*. But, after all, is it certain that the Keiros of the Mosaic must be the Kebos, and the supposed animal an Ape? All this is very doubtful.

The word *Sphinx* occurs on the Mosaic, placed over an animal resembling the preceding, excepting that we do not observe the tail, and has something of the air of the Bear. The muzzle is large and long, the mouth wide, and there is a sort of mane; the ears appear to be concealed, and altogether the look is not that of an Ape. Barthelemy says (p. 535) that it more resembles the Tiger-cat, but the muzzle is evidently too long for that animal; whilst, on the other hand, the tarsi are somewhat too much elevated for the Bear.

Finally, the Onocentaur is also figured in this work of art, with the name placed above the figure; but this figure is evidently a monstrous compound of the head of a woman, with long hair shaped like a tippet (*en pelerine*), and of a body with the pectoral extremities of an Ass.

In fine, although the Mosaic of Palestrine may seem at first sight calculated to give us ideas somewhat precise respecting the animals which the ancients called *Koiropithecos*, *Sphinx*, *Kebos*, *Lynx*, it is not so; and I feel inclined to believe, that figures, drawn coarsely, have been invented after the names, that is to say, to correspond with the names. All that we may conclude is, that the animals of that name were really found in Ethiopia, since the artists have drawn them, with others known to be real and to exist in the country.

We are, consequently, surprised that any one could make use of so coarse a work of art, so as to see, in these figures of monstrous animals, proofs of animals having been lost or disappeared from the existing order of things, and, during a historic period, so little removed as the end of the second age of our era. The figures which the Egyptians have left of their hieroglyphics, or in their sacred symbols, or, later still, in the scenes of domestic life, figured on the tombs, offer us better materials for recognising what species of Apes were known to the ancients.

In fact, the *P. Patas*, Linn., or *Pyrrhonotes* (Ehrenb.), as this zoologist first pointed out, may be seen in a bas-relief in a tomb at Sacchara, of Memphis, from the collection of M. Passalagua, No. 1405 of his "Catalogue Raisonné," and of which M. Ehrenberg has given a figure of the natural size, Table I., fig. 1, of his memoir on the Cynocephalus and the Sphinx of the Egyptians (*Academie Royale des Sciences de Berlin*, 1834); and we even see that the Egyptians secured those animals, as we do now, by means of a ring passed round the loins.

M. Ehrenberg refers also to this species of the Ape, figured in the "Description de l'Egypte," pl. 75, and perhaps that which is figured plate 12, fig. 7, 8, and 9, vol. iv. of the "Antiquities."

A species of the Guenon of the division

Callithrix, seems to me represented in a figure of the Cercopithecus, on all-fours, given by *M. Denon* (*Egypt*), and its consideration resumed by M. Ehrenberg, *loc. cit.*, from a painting in the catacombs near the pyramids of Gysch; and also in that of an Ape placed on the neck of the Giraffe, found by Mr. Salt at Thebes, and which has been represented in pl. 12, fig. 9, of the travels of M. Minutoli. In another painting, nearly similar, but in which the small Ape hangs under the neck of the Giraffe, and is not placed above, like the second figure of plate M. C., No. 22, of M. Rosellini; and, finally, in a painting of a procession of persons bringing gifts, several carry on the arms little-tailed Apes (figs. 4 and 5) only, instead of attributing these figures to the *P. Sabæus*, or common *Callitriche*, as was the opinion of M. Ehrenberg, the shortness of the muzzle induces me to consider them rather the *P. Subcinidis* of M. Caillaud, the *Grivet* of M. F. Cuvier, and whose native country is the north-east part of Africa, whilst the P. Sabæus belongs exclusively to the western coast, extending somewhat towards the north.

M. Ehrenberg recognises a third species of Cercopithecus, the *P. Fuliginosus*, or *Mangeby*, in the black Ape of Thebes, and which was drawn as a Pig in pl. 83 of the "Description d'Egypte," and whose consideration was resumed in the symbolic of Creutzer.

But the kind of Ape which, beyond comparison, has been most frequently figured, and even, as it appears, exclusively attributed in the symbolic as really sacred to the god Toth, is the species of Cynocephalus so common in Abyssinia, the *P. Hamadryas*, Linn. In fact, there is scarcely a painting in the temples and in the tombs of the kings and of the priests, which does not possess one or more of these animals, easily recognised by the form of the face, proportion of the tail, and the large tippet of long hairs descending from the head over the shoulders.

M. H. Rossellini has caused to be represented in figures 1 and 2 of the plate M. C., No. 21, the male and female of this kind of Ape, copied from figures in the tomb of Beni-Hassan, a monument to which he assigns an antiquity of 2000 years before our era; and he adds, that he has often seen in the streets and squares of Cairo, Apes altogether like those figured on the monuments.

The figures placed under different circumstances are, unquestionably, the Sphinges or Satyrs, which are, in fact, merely the females or the young of the P. Cynocephalus.

By means of mummies and fossils may be determined the antiquity of the species of Apes on the surface of the globe. The Egyptians considered Apes as sacred animals, yet, notwithstanding the assertion of Strabo and of some other writers, his contemporaries, who relate that the Cynocephalus and the Cebus were both held to be sacred, the first by the Hermopolitans, and the second by the Babylonians of the neighbourhood of Memphis. I cannot find this assertion proved, excepting in so far as regards the Cynocephalus.

Belzoni (viaggi ii., p. 51), says, that in the catacombs of Gurnah, opposite to Thebes, amongst the mummies of men, he discovered those of Apes, with their shape preserved and in a sitting posture, and it appears that these were Cynocephali; at least this is certain in respect to a fine specimen which he has described in another part of his "Travels in Egypt."

Champollion informs us, still later, that a second specimen was discovered, and became a part of the collection of M. Dovretti; but, unfortunately, it appears, that no exact comparison has been made of the crania of these mummies, so as to remove all doubt of the identity of these antique Cynocephali with the species now existing abundantly in Abyssinia, although the probability be in favour of their identity.

COURSE OF LECTURES

ON THE

PHYSIOLOGY AND PATHOLOGY OF THE BLOOD,

AND

THE OTHER ANIMAL FLUIDS,

DELIVERED IN THE SESSION OF 1839-40,

AT THE

School of Anatomy adjoining St. George's Hospital.

By HENRY ANCELL, Esq., Surgeon.

Lecture XXII.

State of the blood in fevers: intermittents, remittents, endemic yellow fever, typhus icterodes, gravior, mitior, synochus. Analysis of blood and serum in continued fever. Puerperal fever, a disease of the blood. Blood in cholera: analysis of its serum. Phlegmasiæ, of various organs. Rheumatism. Gout. Exanthemata: variola; analysis of blood in scarlatina. Hæmorrhagiæ. Blood in hæmatemesis, hæmaturia. Hæmorrhagic diathesis: revival of a patient by transfusion of blood. Profluvia: catarrhus; dysenteria.

Gentlemen:—It will be impossible to do more in the remaining lectures than to place before you some of the most important observations which have been made upon the blood in particular diseases, and to conclude with a short account of a few of the more remarkable remedial agents. In one and all of the diseases arranged in the class *Pyrexiæ*, the blood is deeply concerned; we will, accordingly, commence with *fevers*; a term which includes an indescribable variety of affections, depending on many causes, and,

compared with each other, widely different in their nature and tendencies. The very definition which is most frequently given of this term, indicates that they are general diseases; and since, as we have seen (Lect. 18), the nervous system is a system of parts, we are thrown upon the blood as the source of these universal effects.

Intermittents are generally, if not always, produced by *miasmata;* and although these are so subtile as hitherto to have escaped all our means of detection, there can be little doubt that they are poisons; but poisons act upon the blood, and the whole history of intermittent fevers is favourable to the notion, that regular successions of changes take place in the blood, and are the sources of the successions of symptoms which constitute the disease. In this and every other instance, however, in the absence of facts immediately relating to the blood, we will avoid entering into a train of hypothetical reasoning, however probable, it would certainly render the conclusions at which we have arrived.

Remittents.—We are indebted to Dr. Stevens for the most valuable information respecting the marsh remittents and other fevers of tropical climates. Dr. Stevens, as it appears to me, has done much to establish the important fact, that these fevers are occasioned by sedative poisons in the air respired, which produce their immediate effects upon the blood. In the marsh fevers, both of America and the West Indies, it was ascertained that the blood is diseased before the attack, that is to say, previous to those effects upon the nervous system, by which alone an individual would be aware that he was out of health; it was found to be dark in colour, and evidently deranged in its physical properties; its serum, instead of being translucent, exhibited a muddy or brown colour, and sometimes an oily appearance; in this state its temperature would sometimes be reduced as low as 94°, and accordingly the heat of the whole body became reduced, the pulse less frequent, and various premonitory symptoms occurred: during the cold stage the darkness was increased; in the last stage, the blood was more red, and sometimes florid for a time; but during the remission it was again dark. In the most malignant cases, as the disease advanced, the blood became completely vitiated, and at last black and *vapid*, the blackness occurring long before death, and previous to any impeded action in the lungs which could account for it. This kind of blood, taken from the body, remained black even in an atmosphere of oxygen gas, and could be reddened by the addition of saline matter only. From the latter circumstance, from the fact that it had lost its usual saline taste, and from actual experiment, Dr. Stevens concludes, that in the course of this and some other malignant fevers, the blood loses its saline matter, so as in the latter stages to be almost entirely deprived of it: the poison upon which these remittents depend, is by no means so fatal as that which produces yellow fever.

Endemic Yellow Fever.—Seasoning fever of the West Indies. This is not produced by a poison but "by long-continued heat acting upon the rich blood of strangers from colder climates;" it does not begin with a cold stage, like fever from poison, but commences at once with violent increased action in the vascular system. Here, also, the blood is morbid before the attack, constituting in the individual a predisposition to the disease, being more florid, more saline, and hotter than natural: after the attack, it flows with great force, is hot, so florid that you may doubt on bleeding, whether it comes from an artery or a vein; its fibrin coagulates firmly, but the clot is neither cupped nor buffed, and its serum sometimes presents the bright red tint of arterial blood. This state, as well as the symptoms in the early stage, closely resemble an inflammation of the blood; but in its progress and termination it is totally different, for instead of producing local inflammations and effusions of liquor sanguinis, with fibrinous deposits, it loses its saline and animal principles, and becomes black and thin; in which state sanguineous effusions occur from the different outlets and tissues, and the disease assumes most of those characters which constitute the malignancy of fevers.

Yellow Fever.—African Typhus.—Typhus Icterodes.—This, according to Dr. Stevens, is a disease of a continued type, and, like most other malignant fevers, is produced by an aerial poison, most probably of animal origin. "The poison first paralyses the heart and the circulation over the whole body, both effects being in the extreme texture by the blood." The blood, as it appears in this disease, has been described by Rush, Potter, Mitchell, Warren, and Stevens, and there is a general accordance among them. Blood drawn by Dr. Potter from five persons who lived in the infected part of a city, and were seemingly in good health, presented a particular appearance, which constituted a predisposition to yellow fever; blood drawn at the same time from five persons living at a distance from the seat of infection, had the appearance of perfect health; the latter presenting a remarkable contrast to the former: the blood of a young man coming from a distance into the infected district, was examined on the day of his arrival, and found to be healthy; sixteen days afterwards it had assumed some of the following characters of the blood of yellow fever. This blood, when drawn at the beginning of the disease, is dark in colour, and manifestly deranged; immediately after leaving the vein it gives out a *peculiar smell*, and coagulates almost invariably without any crust; there are black

spots on the surface of the clot, which is extremely soft, and during its formation a large quantity of black colouring matter falls to the bottom of the vessel; the serum has almost always a deep yellow, and, in some instances, an orange colour, but none of the bright redness which characterises the serum in the seasoning fever. The smell of the blood in yellow fever is so peculiar, that Dr. Rush quotes the fact of a person in the habit of frequent venesection, who, from this circumstance alone, could predict the appearance of the disease in a town, before any individual had exhibited its peculiar symptoms. (Lecture 8, p. 609.) Dr. Mitchell found the arterial blood about the fourth day as dark as venous; the serum, constituting a sixth or eighth part, was of a saffron colour, and it would tinge a linen rag in the same way as gall; in the latter stages, where the disease proves fatal, and sometimes very early in bad cases, the blood becomes thin, black, deficient in animal matter, and saltless.

Typhus Gravior.—In an epidemic of this character, coming under the treatment of M. Denis, the blood was semi-fluid, and contained grumous masses, almost invariably presenting the appearance of slight coagulation, but in one out of many instances it was truly incoagulable; the patient had quiet delirium, preceded by long-continued deafness, and accompanied by extreme prostration: there was continued fever with evening exacerbations, black dry tongue, tympanitic abdomen, high coloured scanty urine, fœtid diarrhœa, and a remarkable ammoniacal odour in the urine, perspiration, halitus from the lungs, mucus of the mouth and alvine discharges. It is described as almost inconceivable, that a state so indicative of general decomposition should take place, to be compatible with life, and accordingly the patient died on the following day; the blood partook of the odour of the secretions; it was tolerably fluid, not very thick, had not a single filament of fibrin, the air produced no effect in reddening it, its tint being peculiar between that of venous and arterial blood; and on analysis it was found to contain ammonia, partly free and partly saturated with a combustible acid, besides the usual salts, but the proportions of the latter are not stated. M. Denis remarks, that in this instance the ammonia and its salts were certainly the chemical cause of the blood being diffluent and incoagulable. This state of the blood was only observed in the advanced stages of the disease, when it had attained the greatest degree of "putridity;" and whether primary or consecutive, it could not fail to augment the prostration of the vital powers; the effects were extremely analogous to those which follow the direct introduction of ammonia, or of putrid substances into the blood. Bonnet, of Lyons, found hydrosulphate of ammonia in the blood in malignant diseases.

The general appearances of the blood in malignant fevers of our own climate, are well described by Huxham and Fordyce. In the fever of the spring of 1752, it was often sizy at the beginning, but less so than in inflammatory diseases. For several months it was "rarely viscid," but generally unusually florid, like lamb's blood; and the clot of so soft and loose a texture, that you might cut it with a feather, giving off little or no serum, and having the appearance as when spirits of hartshorn is added to blood, just when it runs from a vein, which prevents its natural coagulation: in one instance it was a mere "sanious gore." In the spring of 1753, it was more dense and viscid than had been observed for many months before, and pleurisy and other diseases prevailed. During the prevalence of the malignant ulcerous sore throat, sometimes the first blood was covered with a very thin whitish or lead-coloured, pretty tenacious coat, corresponding with a throbbing pulse, and great heat at the commencement of the distemper; but immediately underneath it was a greenish soft kind of jelly, and at the bottom a very loose black crassamentum, scarcely at all cohering, and forbidding all further evacuation. In fact, a buffy kind of blood was often met with at the commencement of malignant fevers, and two or three days afterwards it became quite loose, dissolved, and sanious as it were; Huxham observed this in the French captives who were frequently bled by their surgeons, and he describes the blood as a mere sanious putrilage. In innumerable instances, the whole history of these cases exemplifies the complications of hæmatitis with toxicohæmia.

Typhus Mitior.—Synochus.—In the mixed and mild typhoid fevers of this climate, we have the testimony of Drs. Tweedie, Reid Clanny, Burne, and Stokes, Mr. Jennings and others, that the blood is decidedly morbid; the last-mentioned gentlemen describes it as follows:—During the *first* stage, that of depression, for the most part it flows with difficulty, is dark, coagulates rapidly, forms a loose, large, dark-coloured clot; during the *second* stage, or that of excitement, it flows freely, is scarlet, coagulates with less rapidity, forms a firmer clot, which occasionally presents a light buff coat; during the *third* stage, or that of collapse, it flows with great freedom, frequently exudes through the tissues, is extremely thin, watery, and dark-coloured, and the clot is loose and flocculent; sometimes presenting more the appearance of a subsidence of the colouring matter than of a coagulum. In full-developed typhus, Dr. Armstrong observed the blood from the temporal artery as dark as that from the veins.

Dr. Clanny found, during the progress of those cases of the blood which he examined chemically, that the free carbonic acid was gradually diminished in quantity, and, on the sixth day, no longer to be detected, reap-

pearing only on the restoration of comparative health, and not at all in unfavourable cases; and that the proportion of water augmented as the disease advanced, so that by the sixth day it was considerably increased, on the twelfth still further increased, and the solid matters and salts greatly diminished; and that, from the twelfth to the eighteenth day in favourable cases, the water decreased, and the other materials increased; the blood at the last-mentioned period having a milky appearance.

The observation of Dr. Clanny's, respecting the watery state of the blood in typhus, is confirmed by Lecanu and others; it appears also, that the fibrin is not increased, but rather diminished, and in some instances perhaps, nearly lost; but the most remarkable deviation from the normal state is in the loss of saline matter. Mr. Jennings analysed several specimens; he did not find the salts deficient to so great an extent as described by Dr. Stevens in yellow fever; but they were reduced from 8.10 parts per 1000, the standard of Lecanu, to 4.4 parts on an average; that is to say, one-half; and this diminution was found to have taken place at the very commencement of the disease.

TABLE XXXII.

Analysis of Serum and of Blood in continued Fever. By Mr. Jennings.

A. Serum. Average of three cases, sp. gr. 1.028	
Water	917
Albumen	67.6
Animal extractive	4.6
Fatty matter	3.6
Alkaline salts	4.4
Earthy salts	1.3
Loss	1.5
	1000.

B. Blood. Female aged 14.	*Fourth day.*
Water	856.
Albumen	37.
Fibrin	2.
Fatty matter	3.
Extractives	3.
Alkaline salts	3.8
Earthy salts	1.
Corpuscles	91.
Loss	3.2
	1000.

Dr. Stevens states that the secretions of the alimentary canal were remarkably acid in malignant fevers, but this was by no means connected with any special pathological lesions of the solid parts, it seemed to relate only to the changes proceeding in the blood; the black vomit was the effused morbid blood still further modified by this acid. I find, however, in Dr. Bird's Memoir, that acidity in the alimentary canal is referred to irritation. In two cases of continued fever terminating fatally, there was ulceration of the intestines about the ileo-cæcal valve, and the contents not only of the cæcum, but of the whole length of the small intestines, were powerfully acid. With respect to the bluish-green size noticed by Fordyce and others, in fevers with equivocal symptoms of inflammation, as well as of "putrefaction" at the beginning, Dr. Bird remarks, that this appearance has an analogy to the peculiar colour assumed by urine, when mixed with blood in hæmaturia, or in low typhoid fevers and scurvy, when hæmorrhage takes place from the kidneys; and that the same thing is seen in the scanty, viscid expectoration of pneumonia in malignant cases.

Puerperal Fever.—We are indebted to Dr. Ferguson for boldly declaring that this disease depends upon a vitiated state of the blood; after a most luminous and comprehensive statement of the numerous symptoms and consequences which attend it, its nervous symptoms, irritations, inflammations, successive attacks on different tissues and organs; effusions of pus, serum, and blood; suffusions, softenings, ulcerations, and gangrenous affections; we learn from him that the causes which have been proved to be capable of vitiating the blood, and of producing a state resembling puerperal fever, are particularly rife in the puerperal state. During childbirth the vessels of the uterus are mechanically injured; its internal surface presents an analogy to an amputated stump; it is a large solution of continuity; and its gaping vessels are exposed to all the secretions consequent upon the restorative process, whereby, under disturbing causes, the blood imbibes noxious fluids, whether pus, lymph, or putrid sanies, and the various forms of puerperal fever are easily deducible from the blood thus vitiated. The peritoneal forms of the disease depend upon the action of the poisoned blood being more or less confined to this membrane. The gastro-enteric form, upon its action upon the liver, through which the blood must necessarily pass, in great part, in the first instance, and by which the poison should be eliminated. The nervous form results from the impression of the poisoned fluid upon the nervous centres; and the complicated form is caused by its universal diffusion over many organs, causing each to react after its own laws. The blood itself, both before and after the death of the patient, presents most of the appearances characteristic of bad fevers, and the whole mass not unfrequently retains its fluidity after death.

Cholera.—The attention of Dr. Ainsley was particularly directed to the peculiar state of the blood in the first case of this disease which came under his notice, and in every dissection he performed, he uniformly found the large veins both of the general and the portal system, the sinuses of the brain, and the cavities of the heart, loaded with a thick, viscid, and black blood. When blood was found in the left

cavities of the heart it had a similar appearance: the lungs were always completely gorged, and all the internal viscera presented a greater or less degree of congestion from pitchy or black blood. The blood-vessels on the external surface, and at the extremities, were generally contracted and empty, or nearly so. The blood exhibited morbid appearances to Dr. Ainsley, when drawn from the patient even at an early period of the disease; and as this advanced to a fatal issue, the characters above described were most manifest. This state of blood is considered by the authority before us as "one of the earliest links in the chain of effects consequent on the invasion of the efficient cause of the disease," and "a strong *diagnostic* mark;" but he is of opinion that the "nervous influence" receives the first impression of the morbid cause, and gives rise to this condition of the blood, by altering the functions of the lungs, liver, and other excerning organs.

The characteristic alvine dejections in this disease are strongly alkaline, have a sp. gr. of about 1007, are white, very fluid, contain a flaky matter which subsides when left at rest, and are composed of water, mucus, carbonate, acetate, muriate, phosphate, and sulphate of soda, the flakes consisting of coagulated albumen or fibrin, or a mixture of the two. They may be regarded as a thin serum, drained, as it were, from the liquor sanguinis, and they contain the water and the salts of the blood. These dejections form a "certain chemical diagnosis" between this disease and others, with which it might be confounded.

TABLE XXXIII.

Analysis of the Serum of Blood in Cholera. Sp. gr. 1.041. *By Dr. O'Shaughnessy.*

Water	854.0
Albumen	133.0
Urea	.4
Fatty matter —— oily and crystalline	1.4
Muriate of soda —— of potassa	4.
Sulphates and muriates	1.6
Albumen with soda Organic matter soluble in water and alcohol	4.8
Loss	.8
	1000.0

Thus the blood in cholera has a greatly-reduced proportion of water and salts, and, according to Lassaigne and Thompson, a diminished proportion of fibrin; its alkali, also, is remarkably reduced. Lecanu found that the proportion of solid matter to water in the completely "tarry" blood was more than double that of health. All these circumstances correspond with the chemical composition of the alvine dejections, as the existence of urea does with the suppression of the secretion of urine. Examined with a powerful instrument, the microscopical structure of the corpuscles is seen to be preserved, and when exposed to the air the blood assumes a fine scarlet colour, which, with other circumstances, would appear to establish that the susceptibility of aeration is not destroyed. Dr. O'Shaughnessy regards this alteration of the blood as the result of an external impression, although we are in ignorance how it is produced; yet he considers that every circumstance attending the disease, coincides in denoting that an organic poison is the first mover of the consecutive actions, and "there can be little doubt that the morbid state of the blood is *essentially* connected with its progress and fatal results."

Sometimes death has occurred before any purging or vomiting, which seems to show that the poison may produce a direct and deadly impression upon the blood, without the intervention of that draining of serum which is so marked a symptom. In some cases, the fluid parts of the blood are eliminated by the kidneys and skin, before the commencement of any very remarkable symptom. The perspiration was frequently alkaline; and during the prevalence of the Newcastle epidemic, persons in attendance on cholera cases had temporary diabetes, the urine containing free soda. Dr. Clanny found the vomited matters alkaline and albuminous. Dr. O'Shaughnessy and Dr. Stevens regard the diminution of salts as being closely connected with the fever stage of the disease.

Phlegmasiæ.—It will be impossible, in the present course, to follow out the important considerations, which result from the facts relating to the blood in inflammation, to which your attention was called upon on a former occasion; but I find that the experiments of the late Mr. Jennings, whose report on the blood I had not then seen, confirm, in the more essential particulars, the statement before you. He found the fibrin in inflamed blood increased to more than three times the healthy average, while the alkaline salts were diminished *one-half*; and he remarks, that the increase of fibrin is not the result of increased *vascular* action, for in several cases of inflammation, where he bled the patient before the shivering had subsided, and in others where the blood was taken within a few hours of its occurrence, the increased proportion of fibrin was found to exist. In these experiments the albumen also was slightly increased. In some cases of inflammation the albumen is said to be double its normal quantity. Mr. Jennings remarks, that even if no primary specific differences exist in the blood, in particular inflammations, we can scarcely suppose the function of an important viscus to be deranged, for any con-

siderable period, without producing some corresponding change in the blood. Thus, in a case of *cystitis* the urine being diminished, and in a case of *hysteritis* both the milk and lochiæ being checked, together with the usual characters of hæmatitis, there was hydrohæmia, or a great increase of water in the blood; and he also instances *hepatitis*, where the changes in the blood produced by inflammation, are combined with those occasioned by jaundice. In a patient labouring under pleurisy and pneumonia, with slight yellowness of surface, Dr. Bird found the blood so loaded with bile, that the concentrated serum tasted bitter. M. Solon has also detected the colouring principles of bile in bilious pneumonia and pleuro-pneumonia. But the first-mentioned physician thinks, that the yellowness of the sputa is frequently owing to the admixture of blood corpuscles. The scanty viscid expectoration in pneumonia, is well known to vary in tint, from an orange and greenish yellow to a reddish brown: when the former colour was observed in the expectorated matter, the older physicians called the disease bilious pneumonia. It has been observed of this disease, that a very thin yellow spitting either shows that nothing but the thinnest part of the blood is strained through the arteries of the lungs; or that the whole mass of the blood begins to dissolve, its bilious principle being highly exalted; and that all tends to a general putrefaction. Dr. Bird, with Magendie, refers the varieties of tint to a greater or less state of dilution of the colouring matter of the blood mixed with the different fluids.

Donné asserts that acidity of the saliva is an indication of an ulcerated, inflamed, or congested state of the mucous membrane of the alimentary canal; and Dr. Bird has always found acid saliva corresponding with an irritable state of that canal.

Rheumatism.—I have already remarked on this, as appertaining to hæmatitis; but it remains to say, that in all probability there is something specific in the state of the blood in this disease. This seems to be shown by the fact of its intensely arterial colour, and that blood-letting has not the same effect on the blood in this, as in other inflammatory diseases. Mr. Jennings remarks, that the fibrin is altered in character, and that bleeding may be repeated until its proportion shall be below that of health, and yet a buffy coat will form: the parts of the clot underneath the buff being so loose, as to break down when touched ever so lightly. It is impossible to go into the question now; but I should say, that acute rheumatism is an inflammation of the blood arising from ordinary causes, and that its specific characters depend upon some peculiar constitution of the blood, forming, in part, a predisposition to the disease—probably some peculiar state of its saline and earthy materials. In rheumatic pericarditis the fibrin effused is more solid than in ordinary inflammation. Vauquelin found uric acid in the perspiration of rheumatic patients, and the critical sweat of a rheumatic fever charged with albumen.

Gout.—I shall merely condense a few pages from M. Andral on this subject. Three principal phenomena coexist or succeed each other in persons affected with gout; viz., hard concretions in the joints, depositions of calcareous matter in the arteries, and gravel in the urinary passages. Gouty subjects, as well as those afflicted with gravel, are generally persons who have made too free a use of animal diet. Magendie has shown that by feeding a carnivorous animal on substances containing little or no azote, his urine may be deprived of uric acid and of phosphate of lime: whence it follows, that the urine of a person using an excess of azotised food, will have to eliminate from the blood a proportionably large quantity of uric acid and phosphate of lime. But if these salts are so abundant that they cannot be carried off by the kidneys, other ways of elimination may be opened, and the uric acid of gouty joints, may be that superabundant portion which the kidneys could not dispose of. The phosphate of lime deposited in arteries, may likewise be that portion which could not pass off from the blood with the urine. Not having any analysis of gouty blood before us, or any positive facts relating to the blood in this disease, the above is purely hypothesis; but, as remarked by Andral, it connects phenomena together, which, at first sight, bear no relation to each other. Phosphate of lime is deposited in arteries, and uric acid in joints, at the same time, and for the same reason,—an excessive formation of each in the blood. The blood being previously altered, there is a tendency to establish a process of *secretion;* and this tendency is accompanied by an afflux of blood, and an exaltation of the vitality of the part; and in this way the local *irritation*, which precedes the morbid secretion, is produced. It follows that the latter is only an *effect*, and so far from being regarded as the cause of the morbid secretion, should be considered as merely existing to favour the elimination of morbid matter from the blood. On the accession of a paroxysm of gout, the perspiration has been found to contain ammonia and more saline matter than in health. "When I reflect on the conclusions to which this argument has led me, I really feel surprised at thus finding myself involved in the antiquated doctrines of the humoral pathology. But why should I, on that account, reject an hypothesis which appears so satisfactorily to connect all the facts that have been observed; which embraces them all,—symptoms, morbid appearances, and method of treatment; and which, I have no hesita-

tion in affirming, gives a more satisfactory and more scientific explanation of these facts, than the hypothesis in vogue at the present day, which considers each of these alterations as the effect of an irritation purely local, and independent of any general or constitutional derangement?"

Exanthemata.—There are few facts directly relating to the blood in eruptive fevers, as yet ascertained. The subtile poison in *variola* produces a peculiar odour, which is given off both by the skin and lungs; it is capable of reproducing the disease in any susceptible constitution, by absorption into the blood, through any of the various channels. The blood differs in appearance in different cases, and we find Magendie establishing a prognosis by its examination. In one case the serum was strongly alkaline. Mr. Lane and myself examined the corpuscles microscopically in some cases of eruptive fever; they appeared as if damaged; this was particularly remarkable in *rubeola*, but the cases were too few to arrive at an opinion, and I mention it only as a hint. Lecanu gives the following analyses of the blood, from two young men, one aged 23, the other 18, abstracted at the commencement of *scarlatina*:—

TABLE XXXIV.

Water	776.55 ..	770.41
"Globules"	144.55 ..	146.80
Albumen, Extractive matter, Saline, Fatty	78.90 ..	82.79
	1000.	1000.

This affords us no information respecting the nature of the poison, or its specific effects on the blood. But if we assume that the spec. grav. of the blood of these young men was about 1.050 in health, and compare the above results with TABLE XXIV., we shall find the proportion of water considerably diminished, and that of the organic principles probably increased; which circumstance, taken with the symptoms for which bleeding is occasionally adopted in the early stages of this disease, the general excitement, inflammatory congestion of organs, and the occasional occurrence of a buffy coat, leads to the inference, that the primary effect of the scarlet-fever poison upon the blood, is a molecular inflammatory action of a specific nature.

Hæmorrhagia.—Dr. Cullen includes only such hæmorrhages as are attended with pyrexia in this order; but I must avail myself of it, to introduce a few facts relating to the blood, in cases of a different kind. An effusion of blood may result from a rupture of vessels, or a bloody fluid may transude from their parietes. Properly speaking, the word hæmorrhage should apply to the former only, since the latter consists of liquor sanguinis, or serum holding hæmatosine in solution. The degree and kind of vascularity of a part, as the greater vascularity of the lungs and mucous membranes, general and local hyperæmia, hæmatitis, a disturbance of the just *balance* between the force of propulsion of the blood and the resistance of the capillary parietes; this altered force of propulsion most frequently depending upon the altered qualities of the blood: these, as also obstructions to the return of venous blood, however induced, are among the most frequent predisposing causes of true hæmorrhages; and where the predisposition exists, the effusion is most frequently excited by external heat rarifying the blood, and increasing plethora; by alterations in the pressure and temperature of the atmosphere, producing an expansion of the blood on one hand, or preventing exhalation on the other; by pressure from ligatures; by postures increasing determination; and by every circumstance which augments the force of the circulation of the blood.

Hæmatemesis.—The blood differs much in appearance in different cases; it is sometimes clotted, and not much altered, but generally dark, and occasionally black. Sometimes its dark colour depends upon a vitiated state even during its circulation; but it is for the most part produced by the acidity of the contents of the stomach. Its variable appearance at different times is explained by the fact, that the secretions of the stomach are sometimes acid, as from the stimulus of food, and sometimes neutral, and its degree of blackness depends in a great measure upon the proportion of acid. It may be grumous, brown, or of a chocolate colour, or like coffee-grounds; and this, according to Dr. Watson, generally denotes the existence of organic disease. It is laid down, that the effusion of blood into the stomach is seldom from rupture of a vessel, for, when death has followed immediately, the membrane has been found quite entire, and of its natural consistence and colour. But this opinion, I think, has been adopted rather too hastily; the membrane is frequently partially red, pulpy, and vascular, the capillary network being gorged with blood, the effusion is, at all events, in many cases, a true hæmorrhage; and there can be little doubt, that if examined microscopically, the capillaries would be found ruptured, so as to permit the exit of the red corpuscles of the blood. I may state here, from Dr. Watson's Lumleian Lectures, that when acids have been taken into the stomach, it has been found, after death, that they were imbibed by the blood-vessels, the blood being changed in colour, or, as it were, charred while yet in the submucous capillaries, where no destruction of mucous membrane was produced.

Hæmaturia.—The proper test of blood in the urine was given in Lecture XIII. Blood derived from the kidney is generally equally

diffused over the whole urine; derived from the bladder, it comes away, for the most part, at the termination of the urinary discharge. A reddish sediment of blood in the urine sometimes indicates malignant disease. Cylindrical portions of fibrin sometimes resembling worms, characterise hæmorrhage from the kidney, or the commencement of the urethra, &c. &c. Lecanu states, that blood in the urine may undergo a remarkable change, as shown by a modification or destruction of its colouring principle. He found the blood of hæmaturia, coagulated blackish brown, instead of blackish red, by sulphuric acid; white, instead of blackish red, by nitric and hydrochloric acid; and white, instead of red, by alcohol.

The Hæmorrhagic Diathesis is a remarkable state of the blood and sanguiferous system, by no means of very uncommon occurrence even in this country. It is hereditary, and has been observed to affect the males of a family most frequently, although it may be transmitted by the mother. It seems to be a more common affection in the west of Germany, and all the boys of a family will frequently die with it. The blood is of the ordinary colour, but unusually fluid; and it coagulates, but the coagulum has little firmness. The consequence of this state of the blood is, that most of the textures including the capillary parietes are extremely fine, and accordingly the latter are easily ruptured, and a flow of blood induced; and in many instances where this happens, no effort of nature or means of art are capable of restraining it. Mr. Wardrop has collected several cases of this description. One gentleman was subject to profuse hæmorrhage from the slightest scratch; at length he received a slight wound on the finger, and every effort to arrest the hæmorrhage failing, he expired. A gentleman died in a few days of hæmorrhage from numberless small orifices, after the introduction of a seton-needle into the side. Mr. Blagden records the case of a young man liable to profuse hæmorrhage from trifling wounds, who died from this cause a week after the extraction of a tooth. One child died from accidentally biting his tongue. Mr. Ward, of Epsom, furnished Mr. Wardrop with a remarkable illustration of the hereditary nature of this disease. A boy under his care was affected with it, his mother's brother was afflicted in a similar way; the latter had five uncles and two aunts; all the uncles were afflicted, three died from a division of the frænum linguæ, and one from the extraction of a tooth; the male children of both the aunts were affected, and all the females of this family escaped. In the aggravated form in which this disease is described as occurring in Germany, the symptoms are, ecchymoses, taking place spontaneously or from the slightest pressure, and slowly disappearing, leaving a yellow tint behind; epistaxis; profuse loss of blood from the slightest puncture; hæmoptysis from the slightest cough; diarrhœa, with clotted blood in the stools. Patients are subject to frequent attacks of pain and swelling, with ecchymoses of the wrist, ankle, and knee-joint, attended with fever. One of the adults, above mentioned, was an almost constant sufferer with rheumatic gout. The late Mr. Wilson records another case of a child who died of this disease; on inspecting the body the arteries were found to be extremely thin.

All the cases I have mentioned proved fatal, notwithstanding the employment of every medical and surgical remedy which art could devise. Mr. Wardrop remarks that those substances, which dispose the blood to coagulate, seem to have more effect in restraining the bleeding, for a time, than those which excite the artery itself to contract; yet every aid of this description ultimately proved futile. Mr. Lane has lately recorded a case which fell under his care, and of which I was witness. A lad who had exhibited this hæmorrhagic tendency on former occasions, was reduced to the most extreme state of anæmia, threatening immediate dissolution, from a trifling surgical operation. As a last resource, when all hope had vanished, Mr. Lane performed the operation of *transfusion of blood*;* the boy was as it were reanimated, the hæmorrhage was arrested, and recovery ultimately took place.

Vitiated states of the blood predisposing to or causing hæmorrhage, are frequently acquired: these are for the most part passive and symptomatic hæmorrhages, and in very many instances they are not, properly speaking, hæmorrhages at all, being mere exudations of serum holding the colouring matter of blood in suspension or solution, and the result of various morbid conditions of the blood. This is exemplified in the petechiæ, ecchymoses, and sanguineous effusions occurring in malignant diseases. Andral remarks, that it is sufficient for hæmorrhages to occur, that the qualities of the blood be so modified, that its molecules lose their natural force of cohesion; he gives the following instructive cases:—In a woman with cancer of the stomach, the blood became so deteriorated, that a fortnight before death purple spots appeared on her skin; blood was passed daily with the urine, and there were red spots on the eyes, one of which was affected as with chemosis. P.M. Ecchymosed spots under the pleura and peritoneum, on the internal surface of the heart, and in the alimentary canal; bloody fluid in the kidneys and urinary passages; no more of blood in

* The particulars of this case will be published in a future number of THE LANCET.

the heart and large vessels than a violet coloured fluid, without the slightest appearance of coagulation. Stultz records a similar case of a pregnant woman; ecchymoses similar to those in the former were found in the lungs, pericardium, heart, and vessels of the fœtus. With respect to many of these cases, and to the curious subject of *sudor sanguinis*, &c., it is to be regretted that no microscopical observations have been made; the first question which arises in the mind being—are the red corpuscles effused or not? I cannot enter further into the important subject of hæmorrhage than to remark, that, as regards the whole of it, the *qualities* of the blood have been too much disregarded.

Profluvia.—The blood drawn from a vein in *catarrh*, "commonly exhibits the inflammatory crust;" and that it is not an increased reflux of fluids to the mucous glands alone, which suppressed perspiration occasions, but that the qualities of the blood undergo changes, which are the causes of the irritation, is sufficiently obvious from the characters of the sputa, and numerous other considerations. The observations which have been made respecting epidemic and contagious diseases, apply to *influenza* and *dysentery*; and as I am not prepared with a more particular statement respecting the blood in these diseases, we may well pass them over, observing only, that every consideration respecting them indicates that they involve distinct and unequivocal morbid conditions of the vital fluid.

I might take the same liberty with the order profluvia which I did with hæmorrhagiæ, and here proceed to show that there is such a class of diseases as *fluxes*, totally distinct from irritation or inflammation of the parts from which they proceed, depending upon in the main, and reproducing altered states of the blood. I might cite with Andral, profuse sweats, diabetes insipidus, inordinate secretions of bile, saliva, and mucous and serous discharges. I might enter fully into the history of the absorption of effusions into the abdomen, and their subsequent elimination from the blood, almost, if not quite unaltered, by the kidneys, intestinal canal or skin, just as water injected into the veins is eliminated by the same organs; and I might bring forward a long list of instances of excessive and morbid secretions and excretions from the blood, without a trace of organic disease, at the same time admitting, in innumerable instances, a rearrangement of their elementary particles, after their separation from the blood, but I should be exceeding the necessary limits of these lectures; and in terminating Dr. Cullen's class, Pyrexiæ, to the diseases in which the last three lectures, for the most part, apply, I may just remark, that I think it has been rendered abundantly manifest, that the doctrine of diseases must ever be imperfect, and their treatment empyrical, until we are better acquainted with the pathology of the blood, and that this is a fertile field, only requiring cultivation.

LECTURES

ON THE

ORGANS OF REPRODUCTION IN THE ANIMAL KINGDOM.

DELIVERED IN THE ROYAL COLLEGE OF SURGEONS, LONDON.

BY PROFESSOR OWEN, F.R.S.

LECTURE XIII.—MAY 19, 1840.

IF the natural system of classification of the animal kingdom were perfect, we might expect that in passing from invertebrata to vertebrata, we should find a more complete and complicated organisation. But the comparison of the higher Cephalopoda with fishes, serves only to show that this is not the case, and that fishes are superior to mollusca and many of the inferior classes only in one system, the nervous, and associated with that, the osseous apparatus. Few fishes possess a digestive system so perfect and complicated as that of Cephalopoda; in the latter, the circulating system is provided with three hearts, two branchial and one systemic, while fishes possess only a branchial heart; and in the generative system the descent is still more striking and sudden. Cephalopoda have a nervous ganglion representing the brain, surrounded by a rudimentary cranium, but no spinal cord. Fishes have a more complete brain and spinal cord, protected by an osseous case.

FISHES.—All fishes are dioecious, that is to say, they are possessed of distinct generative organs on different individuals, constituting opposite sexes; but this cannot be considered a superior gradation to the invertebrate tribes, for we have already seen the same condition, even amongst the intestinal worms. The lowest fishes, as the Petromyzon, or Lamprey, and the Myxine, which belong to the order of Cyclostomous fishes, from possessing a suctorial mouth, and are unprovided with fins, have a lengthened laminated organ, attached to the superior parietes of the abdomen, on either side of the vertebral column, nearly its entire length, by means of a short mesentery. It would be difficult, in examining this organ, to distinguish whether it were an ovary or a testis, as we have before seen to be the case with regard to the bivalve mollusca, excepting during the present month, when both organs would be found loosely plaited from their increase of size, and changed in colour. The ovaries at this season are yellow and granulated, and appear filled with small ova, and the testes are smooth and white; there are

no external characters by which the sexes are to be distinguished. The essential structure of both ovaries and testes is the same; in this they present a remarkable analogy with the same organs in the embryo of the higher animals, and even of man, and both occupy the same position in the abdomen. The testis, like the ovary, is composed of a cellular parenchyma or stroma, in the cells of which the ova are formed in the female, and the semen is secreted in the male; the testes have no excretory ducts; and the semen, after its formation, bursts by a process somewhat similar to dehiscence into the abdominal cavity, whence it escapes by means of a genital opening, situated immediately behind the anus. This is the constant position of the genital opening in the class of fishes. The generative organs of the Eel are very similar to those of the Lamprey; the ovaries and testes occupy the same position in the abdomen. Immediately external to them is another long glandular organ with a distinct excretory duct; these are the kidneys, Sir E. Home thought them to be the testes, and in that case we should have had an instance amongst fishes of an hermaphrodite arrangement. Rathke showed the true nature of these glands; but they were also well known to Hunter, as is proved by the plates which he has given of the viscera of these animals. Mr. Owen observed, that he took occasion to mention this fact of want of correspondence between Home and Hunter, from the circumstance of the opinion being prevalent, that all Sir E. Home's observations took their origin in Hunter, whereas, on the present subject, it was clear that the labours of Hunter had not been consulted.

In some of the osseous fishes the generative organs are essentially the same with those already described. The testis or milt, as in the Salmon and Trout, has no excretory duct; the secretion is poured out into the cavity of the abdomen, and thence through the genital aperture into the circumambient medium; in others, as in the Pike and Sand Eel, the testis, instead of presenting the beautiful analogy to an ovary, in the existence of a stroma, is composed of a number of cæcal tubuli, and provided with an excretory duct, terminating with the ureters in a common cloaca, immediately behind the anus.

The extraordinary magnitude of the generative organs in fishes must strike the most careless observer, and we are naturally led to inquire, what can be the intention of their prodigious size. To this question it may be replied, that such an arrangement is suited, in the first place, to the absence of parental means of protection to the young, which are, therefore, liable to destruction in a multitude of ways, and require to be produced in great numbers; and, secondly, to the absence of intromitting organs, by which the male fluid is ensured a ready access to the ova.

In the Perch, a short excretory duct proceeds from the cavity of each testis, and unites with its fellow to form a common duct, which opens into the cloaca. As in the fish there is no coitus, it follows that there are no vesiculæ seminales; the male organs, consequently, present a simpler type than has hitherto been observed in the animal kingdom. In the Herring, a vas deferens passes off from each testis, at about its posterior fourth, and unites with its fellow to form a common duct, which opens into the cloacal cavity. If air be blown into the vas deferens it will distend the testis, and the minute cæcal terminations of its secreting structure may be seen upon the surface of the organ. Müller has represented the network-like ramifications of the seminal tubuli, in the Shad, where they are seen towards the surface assuming the form of cæcal follicles. In the Cod, the testes are prodigiously increased in extent in the breeding season by the formation of numerous small plait-like folds, which give to the organ somewhat of the appearance of the convolutions of the brain on a smaller scale.

In fishes there exists one very remarkable peculiarity, which has been before noticed in connection with the description of the Mollusca, and more particularly of the Cephalopoda; that is, that they possess the power of secreting the seminal fluid, and fertilising the ova of adult females previously to the attainment of their full growth. This is a subject of much political as well as of scientific interest; for any legislation which is intended for the protection of this very valuable article of food, should be founded upon the sexual peculiarities of the fish. All the Salmonidæ bear one common livery, which consists in a series of vertical bars, crossing transversely the sides of the fish. In all the young of the Salmon, which have not arrived at the full growth, these bars are very distinct. In the adult fish they are concealed by the scales, but may be seen on the skin when the scales are removed. Now, if a naturalist were unacquainted with the fact of the young fish being capable of secreting the male fluid before reaching its adult form, and were to find a fish marked upon its sides by transverse vertical bars, and having the soft roes fully developed, he might very possibly be led to infer that this was an adult specimen of a smaller genus. This mistake has actually been committed by our excellent ichthyologist Mr. Yarrow, in his beautiful work on fishes, wherein the specimen figured as the Parr, is actually the young of the Salmon of the second year. A question has arisen as to whether the ova of the Salmon are capable of being fertilised by the seminal secretion of these younger animals; and whether, supposing that to be the case, the progeny would not be hybrid.

Mr. Shaw has fully established this point by means of his experiments, in which he has proved that the ova of adults may be fertilised by the seminal secretion of the Parr-fish, and the progeny become perfect Salmon. Indeed, if Nature have, amongst any class of animals, established it as a law that two different species shall not propagate; this ought most particularly to be the case with regard to fishes, in which the ova are so exposed, and no means of internal impregnation exists. Were this not the case, indeed, the sea would be completely filled with hybrid fishes. It is well known, for instance, that the Turbot, the Plaice, and the Sole, spawn in the same situation upon a gravelly bed; and that the Cod-fish, and other species, return constantly to the same spawning beds.

Mr. Shaw,* in his excellent paper on the Salmon Fry, observes, "The circumstance of the male Parrs with the milt matured and flowing in profusion from their bodies, being at all times found in company with the adult female Salmon while depositing her spawn in the river, and the female Parrs being in every instance absent, suggested the idea that the males were probably present with the female Salmon at such seasons for a sexual purpose. And to demonstrate the fact, I, in January, 1837, took a female Salmon, weighing 14 lbs., from the spawning-bed, from whence I also took a male Parr, weighing 1½ oz., with the milt of which I impregnated a quantity of her ova, and placed it in the stream of one of the two experimental ponds, where, to my great astonishment, the process succeeded in every respect, as it had done with that which had been impregnated by the adult male Salmon; and exhibited, from the first visible appearance of the embryo fish, up to their assuming the migratory dress, the utmost health and vigour. The very extraordinary results of these experiments, although made with the utmost possible care, induced me to defer giving them publicity, until I had repeatedly verified the fact. I, therefore, removed this brood to another pond, apart from all other fish, where they had an abundant supply of insect food and wholesome water; and again, early in the following January (1838), I repeated the experiment, by taking another female Salmon, weighing 14lbs., and two male Parrs from the same spawning-bed, and impregnated two lots of her ova with the milt of the two Parrs, and afterwards placed them in two different streams, inclosed in boxes open at the top, temperature 45°. The extreme severity of the weather which succeeded, had, however, nearly proved fatal to the whole. On the evening of the 8th of January, the day on which I took the parents from the river, the frost set in, and continued with such intensity for a succession of many weeks, that the wild fowl generally, and the wild ducks in particular, suffered severe privations; and in the course of their wanderings in search of food they unfortunately stumbled on my boxes of ova, one lot of which they wholly devoured, to the amount at least of 500. My feelings of mortification and disappointment, on the discovery of this unforeseen disaster, may readily be conceived. However, on examining my other box, I found there were still a few remaining, which I carefully collected, and put into a place of greater safety. The progressive growth of these, from the impregnation of the ova up to the age of eighteen months, has also been uniformly the same as those produced by male and female adult parents, and reared under similar circumstances.

"As a further illustration of the singular economy of the Salmon in their native streams, I have yet to detail another experiment or two, not less interesting than conclusive. In December last (1838), I took a female Salmon from the river, weighing 11 lbs., and four male Parrs from the same spawning-bed. After impregnating four different lots of her ova, one lot to each individual Parr, I placed the four Parrs in a pond, where they remained until the following May, at which period they assumed the migratory dress. The ova were placed in streams to which no other fish had access, and where they became mature in a similarly progressive manner to those already detailed: thus clearly demonstrating that the young Salmon of eighteen months old, while yet in the parr or early state, actually perform the duties of a male parent before quitting the river."—p. 561.

"Specimen No. 12 is one of the males used in the above experiments, and is itself the produce between a male Parr and female adult Salmon, taken from the river on the 4th of January, 1837, and reared in one of the ponds as already mentioned.

"The result of the experiment practised with this specimen and the female Salmon from the river, being of the utmost importance, in establishing the identity of the species (on a principle recognised by physiologists as a law of nature), every necessary precaution to avoid error or confusion was observed. It was taken from the pond on the 5th of January, 1839, being then twenty months old, with the milt flowing from its

* We have thought that some quotations from Mr. Shaw's paper in the "Transactions of the Royal Society of Edinburgh," entitled "Experimental Observations on the Development and Growth of Salmon Fry, from the Exclusion of the Ova to the Age of Two Years," would be interesting to our readers, we, therefore, take the liberty of introducing them into Mr. Owen's Lecture.—Ed. L.

body. A female adult Salmon, weighing 12lbs., was taken at the same time from the river, in the act of spawning in the absence of the male. A quantity of her ova was impregnated in the same manner in every respect as practised in the preceding experiments, and for the better security of the lot the whole was placed in a wooden trough, over which a sheet of fine copper-wire gauze was fixed. The trough was then placed in a stream of water previously prepared for its reception, and the results were precisely of a corresponding nature to those already detailed; the embryo fish becoming visible after fifty-three days, and being excluded from the egg at the end of one hundred and nine days after impregnation under a temperature of 40°.

"It has been maintained by individuals whose opinions are opposed to mine on this question, that the Parr is a distinct species, and that, by a forced connection between it and the female Salmon, I was producing a *hybrid*. This idea at once brings the importance of the last experiment more immediately into view, from the circumstance of the male parent being actually a Parr, while the alleged hybrid in its turn became the parent of a numerous brood.

"Were these two species, then, really distinct, it would follow that the produce would be *hybrids*, and 'Nature herself has provided against the confusion of different species by a conservative law, according to which all hybrids are barren;' consequently, upon this principle—a law in the economy of nature—the *Parr* and Salmon are really identical in species, as proved by the fact now narrated, of the young produced between them having actually the power of reproducing their kind.

"Apart from these experiments, it was at one time held that the Parrs found in their native streams were hybrids, from the anomalous circumstance of the males being always found, in the autumn, with the milt matured, while females of a corresponding size would, at no season, be found exhibiting the least approximation to a breeding state. However, this idea, if it ever was seriously entertained by scientific men, has now given way to the opinion, 'that they are a distinct species, and have no connection whatever with the migratory Salmon.' Were the Parr a distinct species, the result of their attendance on the female Salmon would have the effect of producing universal confusion among the migratory inhabitants of rivers, from the circumstance of the male Parrs, in a breeding state, occupying, in great numbers, the very centre of the Salmon spawning-beds; while the female Salmon herself is, at the same instant, pouring thousands of her ova into the very spot where they are thus genially congregated."—p. 563.

"Had these extraordinary results proceeded from a solitary experiment, there might have been some grounds for believing that I was probably deceiving myself, and, consequently, misleading others; a fear I myself, at first, entertained. But after such a series of experiments, made with all possible care, and uniformly ending in the same results, the fact can no longer, I conceive, admit of doubt. Having altogether, within these last two years, made eight distinct experiments, by artificially impregnating the ova of the Salmon with the milt of a corresponding number of male Parrs from the river, besides three experiments with those of 18 months' old Parrs from the pond —each with perfect success—I trust that I have thrown some interesting light on *the breeding of Parrs;* a subject which has hitherto defeated all inquiry, when sought for on the principle of their breeding among themselves as a distinct species.

"The fact of the young Salmon propagating its kind, while it is yet itself, in other respects, in an immature condition, is certainly an extraordinary departure from the ordinary laws of nature, so far, at least, as animals are concerned. From certain observed facts, however, there is reason to believe that the economy of the class of fishes differs in this respect from that of land animals; a disparity which, in consequence of the medium they inhabit, has hitherto escaped the observation of the naturalist. As the young of the other migratory species do not quit the river during the first year, it is probable that they also observe a similar economy to that of their more valuable congener."

In the viviparous Blenny internal impregnation occurs, and the ova are developed within the ovary, which is single and of large size; in the male, there is a rudimentary penis, and if eversion of the lining membrane of the vas deferens should take place there may be actual intromission. In the usual method of impregnation in fishes, the male approaches the female, and they swim, side by side, while the latter deposits her spawn, sometimes two males accompanying one female, one at either side. During this period the male is observed to turn himself round almost completely, and to bring his cloacal opening near to that of the female, probably into actual contact.

In the higher cartilaginous fishes, as the Shark, the Chimæræ, &c., the testes are more aggregated and compact in their form, and are removed to the upper part of the abdominal cavity. The vas deferens is long and tortuous, and near the cloacal opening dilates into a glandular sac, which represents the vesicula seminalis, and within this sac are developed, for the first time, two clasping organs, intended to be used in actual coitus. In the Skate, the testes are very large and lobulated, and upon these lobules may be seen the small, rounded pro-

jections formed by the cæcal terminations of the tubuli. Upon the inner side of each testis is an epididymis composed of the multiplied convolutions of the tubuli seminiferi, from which there proceeds a single convoluted vas deferens, which passes down behind the testis, becomes dilated near its extremity into a large sac, and terminates in the common cloacal cavity. Müller figures these organs in his great work on the glands, and calls the epididymis the peculiar glands; he rejected Cuvier's opinion of their use, and conceived that the semen escaped into the abdominal cavity by disruption, as in the lower fishes, from discovering no communication by means of ducts between the testis and epididymis. Later examinations of these parts have, however, shown him to be wrong, for true spermatozoa have been observed in the secretion found in the tubuli of the epididymis, by Dr. John Davy and by Wagner.

In all fishes there is a great periodical enlargement of the generative organs at the breeding season, as was pointed out by Hunter in his treatise upon the Sparrow, and in the animal economy. Another and a curious change is observed in the Syngnathi, which belong neither to the osseous nor to the cartilaginous division of fishes; in these a modification of the integument takes place, into which the ova are received, and where their development is performed. In the Syngnathi, as in the Hippocampus and Needle Fishes, the male organ is a simple elongated sac, of small size, but much enlarged during the breeding season. Associated with the existence of the testis is a large subcaudal pouch which receives the ova and performs the office of a marsupial cavity. This extraordinary combination was for some time a matter of surprise to naturalists, and suggested the possibility of an hermaphrodite organisation. But the corroborative testimony of Walton in Cornwall, Retzius in Sweden, and Agassis, has proved that this pouch is possessed only by the male, and that the female has no such apparatus for the protection and development of her ova; a circumstance which must be looked upon as a curious reversion of the offices of the sexes.

In one genus of fishes, the Sturio or Sturgeon, there is a remarkable modification of the generative apparatus which approaches very closely in analogy to the disposition of the female organs in the higher animals, where the Fallopian tube has no connection with the ovary. The testes of the Sturgeon have no excretory ducts, but pour out their secretion into the abdominal cavity, from which it is taken up by a short vas deferens and conveyed into the cloacal cavity.

Reptiles.—In examining the organs of generation in the class of Reptiles, no sudden descent will be observed, as in the classes of invertebrata. In the lowest reptiles, as the Syren, the testis is compact, and shaped like that organ in cartilaginous fishes; and there is a vas deferens to each gland, which dilates near its termination into a rudimentary vesicula seminalis. In the Amphiuma there is a well-formed testis with a fatty body appended to it: in the Frog the testis is oval, and still more compact, and gives off several minute vasa efferentia which unite to form a vas deferens on each side. Near the termination of the vasa deferentia are two oval-shaped organs, composed of glandular follicles, and representing vesiculæ seminales. Among the highest Amphibia, the testis is more complicated, consisting of two, three, or more lobes, and each vas deferens has superadded a series of cæcal glands. In the Salamander or Newt, the vas deferens passes anteriorly in the first instance, and then posteriorly, forming a number of convolutions in its course. Near its termination it is joined by a very singular palmated group of cæcal follicles, analogous to the prostate gland. There are no external signs by which the male may be distinguished from the female, excepting at the breeding season, when the lips of the cloaca are much swollen. Copulation is performed while swimming, the male placing himself under the female, and applying his abdomen against that of his mate: in this position they remain embraced for a considerable time, the cloacæ being in contact, but no intromission taking place. For the purpose of effecting the position here described, a curious change takes place in the integument of the male, it becomes developed in such a manner as to form a crest-like fin along the whole length of the dorsum of the animal, and along the under surface of his tail. This peculiar apparatus is entirely removed after the copulative act is completed. In the common Frog, a transitory character distinguishing the male, is the enlargement of one of the digits of the anterior extremities; the copulative act lasts for several weeks; there is, however, no intromission. The land Salamander is viviparous.

No intromittent organ has as yet been observed, but among animals higher in the scale than those which have preceded, a penis is a constant character; with the exception of birds, in which it exists only in some genera. This organ presents two distinct types of structure. In serpents the vasa deferentia open, as usual, into the cloaca; but near to their terminations a cæcal process is given off from each duct, which extends backwards for some distance into the tail. These processes resemble vesiculæ seminales; they are lined by mucous membrane; then they are invested by a layer of erectile tissue, and, next, by circular muscular fibres, and are retained in their position only by very loose cellular tissue. These

sacculated organs are capable of eversion and protrusion through the cloacal opening, and in that condition they constitute two intromittent organs. They are withdrawn again into the cavity in the tail by muscular action. In the Rattlesnake, each of these organs bifurcates at the extremity, and constitutes a bifid penis. All Serpents and all the Lacertine Sauria are possessed of this peculiar apparatus.

From the long and slender form of serpents the essential organs are rarely symmetrical; one usually lies in front of the other, and is placed somewhat nearer the caudal extremity of the animal. In the Python the right testis is somewhat higher than the left. The vasa efferentia unite to form a vas deferens, which is greatly convoluted, and passes backwards, to terminate in the cloaca. There is no rudiment of epididymis, an organ which we have already seen so remarkably developed in the Skate.

In the Lacertine Sauria the essential organs are more symmetrical than in serpents, but very similar in structure. In the Slow-worm, which is the connecting link between Serpents and Saurian reptiles, the testis and ovaries are symmetrically disposed in the abdomen.

In the Chelonian reptiles and Crocodiles, the principal organ to be remarked will be the intromittent organ.

RESEARCHES

INTO THE

PATHOLOGY, PHYSICAL SIGNS,

AND

TREATMENT OF PERICARDITIS;

ILLUSTRATED BY CASES.

By THOMAS MOORE, *Secretary to the Dublin Medico-Chirurgical Society for* 1840-41.

[Read before the Dublin Medico-Chirurgical Society, during the Session 1838-9.]

THE following case, which came under my observation, a few days since, is so intimately connected with the subject which forms the basis of this paper, that I cannot refrain from inserting it here, although the essay has outstripped its prescribed limits. I am the more anxious to do so, having directed the attention of my friend, Mr. Byrne, a gentleman of very discerning observation, and zealous in the pursuit of medicine, who at the time fully concurred with me in the opinion, to the fact, that the lung was displaced and pushed upwards.

Case of Displacement of the Lung—Supra-clavicular Tumour—Bronchitis—Pericardial Effusion—Congestion of the Lung, &c. &c.

May 16, 1840.—Catherine Fitzpatrick, æt. 30, a servant, was brought into hospital No. 888, yesterday evening (May 15), with symptoms nearly the same as those she at present suffers from; dyspnœa of almost an extreme nature; respiration 58, loud, short, attended with rattling and wheezing in the trachea; the attempts to inflate the chest are redoubled when she has turned in bed; an œdematous state of the integuments of face, thorax, and lower extremities; lividity of countenance, prominence of the eyeballs.

The neck is very much swollen, particularly at the lower part on the left side, and to a much greater amount than that of the right, the outline of the clavicle being altogether obscured; this tumefied appearance is evidently not the result of the œdema of the cellular tissue, being circumscribed; its limits can be traced with accuracy, being increased, and rendered more remarkable during a paroxysm of coughing. The direction of the supra-clavicular tumour is upwards and outwards, extending at least one and a half or two inches above the clavicle, and being nearly on a line with the crico-thyroidean space; directly above the clavicle a very peculiar elastic sensation, but higher up one of a doughy or downy kind is experienced by pressing on or handling the tumour; during ordinary breathing, some slight alterations in the dimensions of the tumour may be observed, but when a violent paroxysm of coughing supervenes, a distinct thrill or vibration is imparted to the touch, produced probably by the rush of air through the tubes into the vesicular tissue. An indistinct or deceptive pulsation can be felt, and by pressing the parts downwards or backwards, slight crepitation may be detected; considerable pain is also produced by this manœuvre; but beyond the outline of the tumour, pressure to any amount may be made without increasing her sufferings; when percussed with a fillip, the sound obtained is rather clear; and when stethoscopised, loud bronchitic râles with crepitation are heard, even more distinct than over the chest; the external jugular vein of this side is more turgid than the right, and feels like the distended veins of a varicocele, it presents also an undulatory motion, apparently derived from the motions of the displaced or protruded lung; the succession of impulses corresponding to the inflation and collapse of the lung, would warrant this conjecture. The results of percussion anteriorly are not satisfactory, from the condition of the cellular tissue: extensive dulness over and beyond the cardiac region is sufficiently obvious. The heart's impulse can scarcely be felt, its action is much obscured by the respiratory phenomena; but when stopped, the entire of its rhythm is accompanied by a loud "blowing sound," almost amounting to a deep *coo*, heard over the entire, and far beyond the cardiac region; this abnormal noise does not extend into the large arteries; its succession is regular, and its degree of inten-

sity pretty uniform; no irregularity in the heart's action having occurred during the examination; pulse 116—120, miserably small and weak, but free from intermission. The sound on percussion, posteriorly, over the left side is remarkably clear, such as would be obtained by percussing an emphysematous lung; this preternatural resonance is better marked over the scapula and superior parts than elsewhere, but also extends laterally; the respiration in the upper portions is very loud, almost puerile; inferiorly, as well as in other parts of the chest, are the evidences of intense bronchitis and congestive pneumonia; the results of percussion on the right side are clear.

Her history may be compressed into the following: she has been delicate in health for many years past, subject to frequent attacks of the chest, being then quite asthmatic; flutterings and palpitations of the heart; the last attack of ten or twelve days' duration has been the most severe of any, when she commenced expectorating masses of dark coagulated blood, more profuse during the last week; her neck has always been thin until this recent attack; she is quite aware of the puffiness, or tumefied condition of the integuments above the clavicles, and its increase within the last few days: it is now five or six days since she first noticed it. The swellings commenced in the lower extremities, and spread upwards.

For the next four days she suffered considerably, from these symptoms; medicine affording but temporary relief; scarcely any alteration took place in the physical signs.

Post-mortem (May 26).—The appearances noted during life remained nearly unaltered, the supra-clavicular tumefaction also was quite evident, the sensation communicated to the touch corresponded pretty nearly with that observed the day before decease. On opening the thorax some deep-coloured fluid escaped, seemingly from the left pleural cavity, but more likely from the pericardium into which the knife had entered. The left lung was adherent to the costal pleura, over the greater part of its surface, the adhesions being strong and tough, apparently of long standing; at the lower part of this side some fluid was formed between the diaphragm and lower lobe of the lung, thus producing a circumscribed hydrothorax; the causes of the appearance, and the characters of the supra-clavicular tumour, were now looked to, and were found to correspond accurately, in some respects, with the description given; the superior part of the lung and apex being connected to the costal pleura by adhesions, the finger had to be passed for some distance, upwards, beneath the clavicle, in order to scoop it down; when removed, it was remarkable how lax the cone of the costal pleura was, allowing the fingers to be inserted beneath the clavicle high up in the neck, when compared with the natural resistance offered by this membrane, under ordinary circumstances, insomuch that the fingers thus passed up represented the substance of the displaced lung, which had been removed, to ascertain, for certain, whether the pulmonary texture had occupied the situation marked during life; the integuments were pressed upon, but none of the same indication existed, which induced us to suspect and diagnose displacement or protrusion of the lung. This is satisfactory, and almost positive proof that the tumour noticed during life resulted from the condition of the lung just mentioned; it is also singular, that three or four inches of the apex were not only in external aspect, but in every other particular more healthy than the lower or middle parts, its air-cells being in no wise dilated, and its crepitation being still perfect; whilst the remainder of the lung was engorged with sero-sanguineous fluid, had lost much of its natural crepitation, being in part solid, in part friable; the pulmonary texture did not present, as was expected, an emphysematous appearance. If such a condition ever existed, the air-cells could not be detected from the thickened state of the pleura, and the filling up of the cells by the sero-sanguineous exudation: the bronchial membrane in both lungs was intensely red in the minute tubes, approaching to a deep purple; in the middle and posterior part of the right lung there was a large mass of dark, coagulated blood, not unlike black-currant jelly; smaller masses were diffused throughout its substance.

Pericardium was thin, semitransparent, very much distended, reaching across median line, also upwards and downwards; when laid open, a large collection of deep-coloured fluid was found, which, together with what had escaped, might amount to a pint: there were floating about in this liquid flocculi in considerable quantity, of a yellowish-green colour, possessing the consistence and many of the qualities of lymph, for the most part separate, not in masses, as is generally the case. In examining the visceral and parietal pericardium, no traces of inflammation were visible: this was certainly the case over the apex and middle portion of the heart, but we were not so satisfied as to the base and the origins of the large vessels. The heart itself, when its cavities were distended with coagula of blood, appeared much enlarged and hypertrophied; but when washed and freed from the clots, it exceeded but slightly an ordinary-sized organ; its shape was somewhat globular, the apex, instead of being pointed, was rounded, so that the right and left ventricles, in this respect, were nearly equal and continuous; the cavities were more capacious than usual. The most striking pathological appearances in the left ventricle were two enormously hypertrophied fleshy columns,

to which were attached the tendinous cords of the valves; the aperture at this side was ovoid in shape, and somewhat diminished in size, but still capable of freely admitting the passage of blood; the valvular texture was thickened to treble or four times the healthy structure; the right auriculo-ventricular aperture was very wide, so much so that it must have admitted of regurgitation; the valves, though not much altered in structure, were incapable of effecting a complete closure of the orifice; both auricles were enlarged in capacity, and hypertrophied in their muscular structure; the liver and kidneys were also diseased.

DISEASES AMONG THE CHINESE.

TUMOURS.

By G. T. Lay, *Esq.*

Tumours of every sort, situation, and size, abound in the southern parts of China. They are sometimes encysted, or steatomatous, but more frequently sarcomatous, and are for a long time of so healthy a structure, that they seem to be natural appendages to the body. At the end of a space of time that varies in length, the textures give way, unhealthy matters are deposited, and the general health begins to suffer. The natives live upon a vegetable diet, which is well sodden in the dressing, and therefore swallow a great deal of warm water with their food. They use but little salt, as it is an expensive article in China, owing to the government monopoly. To a watery diet and great parsimony in the use of salt, I impute the prevalence of tumours; though this remark must be regarded only as conjectural. There is, however, an experimentum crucis, which may be tried to ascertain the truth of this conjecture; for it appears, that the wealthy who can afford to season the vegetables, and eat more freely of animal diet, are not subject to these tumours. The walls of the hall in the Canton hospital are decorated with pictures representing individuals with tumours before incision, and again without tumours after they had recovered their health. They were painted by Lamqua, who says, as the doctor receives nothing for "cutting," he can take no pay for painting. I will select a few cases from the quarterly report published in the "Chinese Repository."

"ENCYSTED TUMOUR.

"Wangke, aged 12 years, of Shuntih. This little girl is a slave, and was sold by her mother for eight dollars. She was accompanied to the hospital by her purchaser, a very respectable and well-bred Chinese woman, who said the child was not her own, yet she felt for her the affection of a mother; and though the blemish had been a sufficient excuse for returning her to the mother, she preferred not to do so; and having heard of the hospital in Canton, was at the expense of time and money to bring her, with the hope of relief. She had an encysted tumour, about sixteen inches in circumference at the base, situated upon the sacrum, and to the right side. The pressure had produced some absorption of the sacrum, and caused the os coccygis to turn outwards. It was moveable, and hard pressure gave no pain. There was no weakness of the spinal column, or of the lower extremities. After suitable preparation of the patient it was removed, and found to be attached by a peduncle of the size of a common quill, which entered one of the posterior sacral foramina. On dividing it, one of the gentlemen who assisted, noticed a slight flow of milky substance from the point of attachment. A ligature was required to prevent the escape of the fluid from the tumour, which was distended with limpid contents, resembling a bladder of water. The wound was dressed as usual. The child was in a subcomatose state for some hours after the operation, and slow in answering when spoken to; perhaps from the opiate she had taken. In the evening and the next morning her pulse ranged from 130 to 140, with considerable fever, and there was anxiety for the result. Calomel and rhubarb were given, and brought away a quantity of large worms, and all her unpleasant symptoms subsided. The child's appetite became good, and the wound healed up by granulations in a little more than a month. She became the picture of health, and, with cheeks plump and rosy, was discharged at the expiration of six weeks.

"Lew Akin, aged 12 years, of Tsunchow, a village of Shuntih district, and the only child of her affectionate parents, had a steatomatous tumour upon the right hip, of a magnitude that required the patient to lean forward when she walked, in order to preserve her balance. Her health appeared good, except that she was much emaciated. In ten days she made surprising improvement under a generous diet. On the 27th of April, the usual indemnity (i.e., that the surgeon shall not be held responsible if the patient dies) having been obtained, the tumour was removed in two minutes and fourteen seconds. Its circumference, exceeding that of her body, was two feet at the base, and much larger at the middle. It was very slightly attached, and consisted of concentric layers of fatty substance, separated from each other by a surrounding serous membrane, till near the centre it was found of a much firmer structure, resembling cartilage. Its weight seven pounds avoirdupois. Upon the third day the dressings were changed; union had taken place

to a considerable extent. In one week the whole was so far healed that the child was able to walk in the room, without pain to herself, or injury to the wound. She is now in good health, and more fleshy than ever before. Since the first twenty-four hours after the operation she has experienced but little pain. The feelings of her father were particularly noticed by the spectators at the time of the operation. He was in the room, but the unsightly wound that presented itself, as the integuments retreated ten or twelve inches apart, the incision being about ten inches long, was too much for the father to witness without tears. He left the room, but the cry of his little daughter, when the needle passed through the integuments in applying the sutures, soon recalled him, as soon to retreat. This vigilance in his attention to his only child, continually day and night here, strongly exhibited the force of natural affections, equalled only by his gratitude for the relief afforded her."

"SARCOMATOUS TUMOUR.

"Akae, a little girl, aged 13. As I was closing the business of the day, I observed a Chinese timidly advancing into the hospital, leading his little daughter, who, at first sight, appeared to have two heads. A sarcomatous tumour, projecting from her right temple, and extending down to the cheek as low as her mouth, sadly disfigured her face. It overhung the right eye, and so depressed the lid as to exclude the light. The parotid, and also its accessory gland, were very much enlarged. This large tumour was surrounded by several small and well-defined ones, the principal of which lay over the buccinator muscle. Slight prominences on other parts of the body indicated a predisposition to tumours, which I have since learned is hereditary. The mother presents a most singular appearance, being covered from birth with small tumours, some of the size of large warts, and others hanging pendant in shape and size, like the finger. Akae is the only one of her four children thus afflicted; her general health was somewhat deranged; the tongue foul, pulse frequent and feeble, and the heat of the tumour above the natural temperature of the system; the blood-vessels passing over it were much enlarged; the weight much accelerated its growth, and occasioned pain at night in the integuments around its base; the child complained of vertigo, and habitually inclined her head to the left side. According to the statement of her parents, the tumour was excited into action by the small-pox, which the child had four years since, but within the last four months had attained three-fourths of its present magnitude. The child was put under medical treatment for a month, during which her health decidedly improved.

"On the 19th of January the operation was performed. The serenity of the sky after several days of continued rain, the presence and kind assistance of several surgical gentlemen, and the fortitude of a heroine with which the child endured the operation, call for my most heartfelt gratitude to the Giver of all good. A few days previous to the extirpation, an evaporating lotion of nitrat. potas. was applied to the tumour; an opiate was given fifteen minutes before, and wine and water during the operation. The patient cheerfully submitted to be blindfolded, and to have her hands and feet confined; the extirpation was effected in eight minutes. Another small tumour of the size of a filbert, was also removed from under the eyebrow; the loss of blood was estimated to be about ten or twelve ounces. *Not an artery required to be taken up.* She vomited, but did not faint. The tumour weighed one pound and a quarter; the circumference at its base was sixteen inches and three quarters, and the length of the incision from the top of the head to the cheek ten inches. On opening it I found portions of it becoming black, and two or three drachms of sanious blood, of a dark chocolate colour, indicating that it had already taken on a diseased action. After a nap, the child awoke cheerful as usual; in the evening her pulse accelerated, and she complained of nausea, but ever afterwards uniformly said that she had no pain. No inflammation supervened, and the wound healed by the first intention. Three days after the operation, in several places of an inch or more in length, it had completely healed, and in fourteen days the whole, except a spot of the fourth of an inch, was entirely healed. In eighteen days the patient was discharged."

"OSTEOMEDULLARY SARCOMA OF THE RIGHT WRIST.

"Oct. 30, 1838.—Leäng Yen, aged 34, from the neighbourhood of Hwate, 'the flower gardens.' In October, 1837, the disease commenced, at the extremity of the radius, and it had gradually increased until it now measured one foot seven inches around the wrist, and about the same at its base. It had never been remarkably painful, neither had the discharge of blood been great. The patient's countenance was very sallow, and face and extremities generally œdematous, particularly on the right side. The monthly discharges were interrupted about the time the disease began. The patient had a morbid appetite, eating as much as in health." I remarked that the hand below the tumour was but slightly affected by the disease in its neighbourhood; the hairs upon the back were unusually large, and seemed to have participated in the unhealthy activity of the nutritive functions. This patient had less principle and

more cunning than some of her countrywomen, and proposed that Dr. Parker should give her 200 dollars for the pleasure of cutting off her arm. This offer was, of course, declined, and the patient continued to ebb and flow in moody humour, now consenting, and then refusing, till December, when it was finally agreed that the arm should be amputated on the 12th. She was then so much reduced, that some doubted whether she would survive the operation. This, however, she bore with uncommon magnanimity, and showed no uneasiness, save at not being allowed to follow the knife and the saw with her eye. She had always sneered at the idea of pain, and her practice was a full verification of her theory. She left the hospital on the 17th of January in excellent spirits with her husband, after expressing herself highly grateful to the doctor for his kindness, care, and skill. Dr. P. remarks—"The examination of the fore-arm evinced the propriety of amputation above the elbow. The disease evidently commenced in the marrow of the radius, and near its head; and then involved the bones and soft parts in the common disease. The tumour was surrounded by a plate of bone the thickness of the pericranium, which being sawed through exposed a mass of matter of the consistency of brain. There were a few apertures at which this medullary substance had protruded, and expanded itself like a mushroom."

"FLESHY TUMOUR OF THE LEFT EYE.

"Jan. 4, 1836.—Ayu, aged 17. The tumour had commenced fourteen months ago, with a slight enlargement of the caruncula lacrymalis, and gradually extended along the globe of the eye, both above and below, till its branches met the external angle, so that the patient was unable to close the lids. When I first saw him, it extended out one quarter of an inch, and was a little inflamed at the apex from external irritation. Slightly lobulated, it closed like the unexpanded petals of a rose, concealed the cornea, and excluded all light. A similar disease had commenced in the right eye. On the 14th of January the tumour was removed. With a sharp pointed bistoury I severed the tarsi at their external union, divided the tumour down to the globe, first dissected it from the lower side, and then from the upper lid and inner angle. The eyeball was unaffected, and the sight restored; the hæmorrhage was not great. The upper lid was much swollen, and the granulations prominent. Having cleansed the eye from blood, and injected a little camphor and water. In the evening bled him to 12 ounces, and he had a comfortable night. He was treated antiphlogistically, and the probe daily passed around to prevent adhesion of the lids to the ball. Evaporating lotions were applied to the lid, and pleasing hopes entertained that the disease would not return. But when the patient left the hospital about four weeks after to spend the new year's festival at home, the tumour had again attained a considerable size, notwithstanding the frequent application of lunar caustic in substance and solution to prevent it."

ON THE NON-EXISTENCE OF

INFECTION IN GONORRHŒA.

To the Editor of THE LANCET.

SIR:—Although I have been lately informed by a professional friend, that there are others who entertain the same views as myself on the present subject, still, as I have never met with any such, notwithstanding my having mentioned it to very many; and as even that one gentleman's ideas differed, as I conceived, very widely from mine, I venture to request you to afford me a place in your widely-circulated Periodical for the few following remarks.

The matter to which I wish to direct attention, is that which I conceive to be a common error, viz., the supposition that gonorrhœa is always contracted by infection. I propose to show that such is not the case; nay, further, that it is probable that there is no gonorrhœal virus at all.

How, then, is gonorrhœa contracted? Thus, a man, for instance, engages in a debauch, and after having drunk so much wine as at once to excite his venereal appetite, and to incapacitate him for the speedy and proper accomplishment of the act of coitus, he seeks to relieve himself, has connection with a woman (often a virtuous wife), and what with the undue heat of his whole frame, the injection of the virile organ with blood, and the long-continued friction, he contracts—What? An inflammation of the mucous membrane lining the urethra. These are the circumstances under which gonorrhœa is, for the most part, produced; but it may also be had in any case where the completion of the coitus has been delayed, that is to say, providing the subject shall, during the whole of the process, have been favoured by the smiles of the god Priapus. Such delay we may easily suppose to occur when there is an attempt to repeat the act too often within the space of a few hours, a case not unfrequent in the nuptial chamber, and in like manner attended by similar consequences. The invasion of this attack of inflammation is probably much favoured by the state of collapse into which the organ passes immediately after having been the prey to so much excitement. Another mode in which this inflammation is produced, is by the introduction of instruments into the urethra, especially in those not accustomed to such operations, and where

practised by unskilful hands. I have seen a case where it originated from the impaction of a calculus in the urethra, and many where it has been produced in boys by masturbation. Of course, the same causes, where they are applicable, will operate in women as well as in men; and, I think, in their case, we may add another, namely, want of cleanliness. In fine, let us say, that it will be produced in either sex, by any irritating cause, sufficient to produce inflammation in any other mucous membrane. I think, then, from what I have already said, that I am justified in the inference, that at any rate there are some cases where there is no infection, e. g., those produced by the introduction of instruments, by the impaction of a stone, and the cases of the boys above mentioned, and to these we may probably add, those contracted by connection with a wife.

Let us now examine what probability there is of the existence and action of a specific virus in those cases which are contracted through the co-operation of a prostitute. And, first, let me speak of my own experience, I mean what I have been a witness to.

During a long residence in France, I was, for a great part of the time, attached to the military hospitals; and this, when in small towns, where every body knew every body, afforded me peculiar opportunities of prosecuting inquiries on the present subject. As thus, when a soldier came into the hospital with gonorrhœa, I used to ask him whom he had had connection with; and, upon examining the person named by him, I found, in the very large majority of cases, that the woman had nothing the matter with her. In some, the woman was diseased from having contracted gonorrhœa at the same time as the man; in others, she had had it previously; but that would argue nothing, because the same conditions to his having it existed in himself whether she had it or no, and, of course, her having it was no immunity for him. On the other hand, I found, in a great many cases, where the man had contracted chancre, that upon examining the woman she had not only chancres, but gonorrhœa also, and that often of a severe character, and yet the man had not caught the latter. Now let us, for a moment, lose sight of the facts I have just set forth, and assume that there is a virus, and let us examine what probability there is that it should find its way into the male urethra, and that to the distance that the disease generally takes effect, that is to say, to the distance of an inch to an inch and a half, for that may be considered the focus of the inflammation, and, therefore, the part first attacked. Sir Everard Home, in his work on "Stricture of the Urethra," has justly remarked, that during the act of coition, that canal is in a condition the reverse of what it is during the act of micturition; for whereas it is dilated during the latter process, it is contracted during the former, not only by preserving its natural state of rest, but from the spasmodic action of the accelerator urinæ muscle as far as it extends, as well as from the natural elasticity of the skin acting upon the organ whilst in a state of unusual distension. Add to this, that it is clasped somewhat firmly by the female organ, and, I think, we have ample means of keeping the canal closed. But, for fear these should not be sufficient, there is another security provided within the canal itself, to guard it against the action of any peccant matter; for the mucous membrane is continually secreting an exudation, whose action is to push away any foreign substance, and to come in between such foreign substance and its own secreting surface, and to hold it at such distance till the operation is terminated by the ejaculation of a sufficient quantity of seminal fluid, thoroughly to wash out the canal, even supposing the matter to have been introduced; so that it will be seen, that did such virus exist, it is, at any rate, very improbable that it should get either introduced to or retained in the male urethra.

The idea that gonorrhœal inflammation depends upon a *specific* virus is, indeed, too puerile to require much notice; that the secretion from the diseased membrane may sometimes partake of an acrid nature there can be little doubt, but this will not suffice to constitute it a specific virus, for the secretion from the Schneiderian membrane possesses this characteristic during an attack of common cold; yet no one thinks of saying that such cold was produced by a specific virus, or, indeed, by any virus at all. Nor is there any thing in the symptoms or nature of an attack of gonorrhœa which should warrant us in supposing the existence of a virus, much less of a specific virus, for it merely runs the course of any other common inflammation, and if not interfered with, would terminate by resolution, for we may look upon it as terminated when all scalding and pain are gone, although I grant that a thinner discharge may exist for some time afterwards; but this is nothing more than what occurs in the nose after an attack of common cold, and may be regarded as an active inflammation having passed into the passive state. During the existence of this, however, or, in fact, for some time after the discharge has altogether disappeared, the whole affair is very liable to be brought on again by even slight causes, such as by trivial excesses in stimulating drinks, or by a single sexual act, nay, even by an ejaculation during sleep, provoked by the imagination in a dream. These latter facts show the tendency which an organ, whose healthy functions have but recently been restored,

has no return to its diseased action, but which renewal of diseased action cannot be suspected of springing from infection. Lastly, the mode of treatment does not go to show anything *specific* in the nature of the disease, for both balsam of copaiba and cubebs (which are principally used), as well as astringent injections, are means which are equally applicable to inflammation of any other mucous membrane; and, indeed, if the injections be used as soon as ever a suspicion of the existence of gonorrhœa is felt, a very few applications will suffice to ward off the attack. This has been noticed by Mr. Coles, of Cheltenham, at page 403 of the present vol. of THE LANCET. I ought, perhaps, to make here some observations on a notice given at page 431 of the same vol. of THE LANCET, to the effect that Dr. Remak, of Berlin, had made the discovery, that the menstrual fluid produces gonorrhœa: this is no original suggestion of his, but an idea which, although perfectly unfounded, has long obtained among the vulgar in France; for the untenability of the position, I should think there can be but few of your readers who cannot vouch; but supposing that source of so much error (the microscope) had enabled him to detect the so-called mucus or even pus-globules in the fluid, it is a wide jump at a conclusion that these must be endowed with the faculty of producing gonorrhœa, for in that case we should expect to find gonorrhœa in every woman as soon as she has menstruated; besides this, no one, even amongst the infectionists, lets his imagination run so wild as to affirm, that *any* pus will produce the disease. In fact, the only specific character which my experience of the disease allows me to award it, is, that it may probably partake of the nature of a rheumatic inflammation, and this I am induced to surmise from the well-known phenomena of metastasis to the eye and testicle; for it has now been clearly shown, upon good authority, that contact of gonorrhœal matter with the eye is not required to produce gonorrhœal ophthalmia;* and it is equally well known that when orchitis supervenes upon gonorrhœa, the discharge ceases, and that the best means to get rid of the orchitis is to re-establish such discharge. I am further led to throw out this suggestion, because I think I have, in some cases, procured as much benefit by the exhibition of colchicum, as by that of either balsam of copaiba or cubebs. I think, then, upon a due consideration of all these arguments, to which many others might be added, that I have shown, at any rate, that gonorrhœa is not always contracted by infection, and the probability that there is no gonorrhœal virus at all, q. e. d., I will detain you no longer than is necessary, to assure you that I remain, Sir, yours faithfully,

JOHN CHIPPENDALE.

10, Bedford-street, Bedford-square,
August 27, 1840.

* Vide Beer, Richter, St. Yves, &c., passim.

CASES OCCURRING IN OBSTETRIC PRACTICE.

By W. R. WARWICK, *Esq.*, *M.R.C.S.L.*, *Newark-upon-Trent.*

HÆMORRHAGE INTO THE ABDOMINAL CAVITY—DEATH.

A. W., æt. 28, residing in Vine-street, York-road.

Aug. 1, 1837. Labour pains came on this morning, although two or three weeks before her expected time, I was called to attend her about five in the afternoon. The os uteri was dilated to about the size of half-a-crown; parts generally soft and dilatable; pains recurring at regular intervals, but weak, and unfrequent. The patient was rather restless. The labour progressed gradually, but slowly, for about two hours, when suddenly violent uterine contraction came on; one pain expelled the head and shoulders; another the body, placenta, and a large coagulum of blood, immediately after. I was at the time supporting the perineum, and using all reasonable means to prevent the too sudden emptying of the uterus, for I found the head descending very rapidly under the influence of the first violent pain. The uterus contracted at once to its ordinary size after delivery.

The patient was faint and much exhausted; but this I attributed to the loss of the blood which was expelled with the child, and to the sudden manner in which the uterus had emptied itself. I directed her to lay perfectly quiet, with her head low, and requested an attendant to make moderate pressure, with the hand expanded over the abdomen, whilst I endeavoured to restore the child, which had not breathed; these efforts, however, were unavailing.

On approaching the bed, about a quarter of an hour afterwards, I found her still faint and exhausted; face pale, and very anxious; a good deal of restlessness and agitation of manner; pulse extremely feeble; skin cool. On asking her how she felt, she replied, "Oh, Sir, I am flooding violently." No unusual flow of blood, however, had shown itself externally, and the uterus remained quite contracted. She soon afterwards became more composed; some colour returned to the face; the skin became warm; the pulse rose, and she was so much restored that I left her about eight o'clock. I lived at a considerable distance, and, therefore, I did not see her again that night.

On entering the house next morning I was

informed the poor woman was dead. The attendants said, that, to all appearance, she had continued doing well for nearly two hours after I had left on the preceding evening; that she then became very faint and restless; convulsions came on at intervals; and she died, before any of the neighbouring practitioners, to whom they sent, could arrive. No external hæmorrhage had occured.

Consent was given for a post-mortem examination, which was conducted on the afternoon of August 3rd, in the presence of Mr. Malyn, Duke-street, Westminster; Dr. Ord, Queen-square, Mr. Flood, Broad Sanctuary, and myself.

The body was that of a fine woman in the prime of life, who, to all appearance, had been in perfect health up to the period of her death. The surface was more blanched than usual; abdomen distended; very resonant on percussion. On opening it, the intestines were found much distended with flatus, and their serous covering appeared bloody. About twenty ounces of blood were taken from the peritoneal cavity; the uterus was contracted to about the size of an infant's head; its anterior surface was fissured in several places, the fissures varying from half an inch to an inch in length, but not extending deeper than through the peritoneal covering; the appendages of the uterus were much infiltrated with blood. Two or three very small coagula were found in the interior of the organ.

The poor woman had a presentiment during her pregnancy that she should not survive the period of her confinement; she had had two or three children previously.

INTESTINAL IRRITATION (?) SIMULATING PUERPERAL PERITONITIS, BUT YIELDING AT ONCE TO PURGATIVES.

Case 1.—Anne D., æt. 40, delivered of her fifteenth child, September 9, 1838. Labour perfectly natural, of four or five hours' duration; has an old oblique inguinal hernia of the right side, which gave no inconvenience during labour.

Sept. 12. Complained of flatulence, griping pains, heartburn, disagreeable taste, with smarting of the tip of the tongue.

These symptoms speedily subsided under the use of small doses of rhubarb and magnesia, with the exception of the smarting of the tongue, which presented no unusual appearance.

19. Had a shivering, but the pulse was not accelerated after it; bowels freely open.

20. Morning. The symptoms present on the 12th returned; pulse 80.

— Evening. Seized with shivering, followed by great pain in the abdomen, increased on pressure, and referred more particularly to the internal abdominal ring of the right side and the umbilicus; no hernial tumour to be detected, but the internal ring would admit readily the points of two fingers; sickness; much flatulence; constant flatulent eructations; tongue much furred; pulse 110; headach; much restlessness and talkativeness; lochiæ scanty; secretion of milk not affected; bowels open during the day.

Mr. Woolley, sen., Brompton-row, kindly saw the patient with me, and we gave her

Calomel, six grains;

Extract of henbane, five grains, in two pills immediately.

Castor oil, half an ounce every second hour, until the bowels were freely moved, after the operation of the purgative.

Sedative solution of opium, twenty drops in a little water.

A poultice of scalded bran to be placed over the abdomen immediately.

21. Bowels have been unloaded of a large quantity of offensive dejections; pain, nausea, and flatulence have disappeared; pulse 80; complains only of weakness.

There was some return of the symptoms a few days afterwards, but they again yielded to similar treatment.

Case 2.—A. M., æt. 30, of plethoric constitution, delivered of her fourth child, Nov. 16, 1838, labour natural.

Nov. 18. Bowels have not been moved since her delivery. To take the following draught early the next morning:—

Powder of jalap, ten grains;

Sulphate of magnesia, two drachms;

Infusion of senna, a fluid ounce and a half.

19 (4, P.M.). Great pain in the abdomen, not bearing the slightest pressure; pulse 135, full, not very hard; skin hot; tongue white; bowels have not acted; secretion of milk and lochial discharge; the free symptoms, she says, came on in the afternoon of the preceding day. The aperient draught to be repeated immediately.

Half-past 6, P.M. Bowels have acted twice; feels much relieved; pulse 150, softer.

20. No pain in the abdomen; bowels freely open during the night; pulse 100; skin cooler.

21. Symptoms have entirely subsided.

Case 3.—E. W., delivered of her sixth child, Nov. 18, 1838, labour natural.

20. Tenderness over the abdomen, which, however, is very slight; tongue white; bowels freely acted upon by the castor oil she took this morning; pulse 100, not hard; lochial discharge slight.

21. Morning. Great tenderness and pain over the region of the uterus; tongue white; bowels open freely yesterday; great thirst; headach; skin hot; pulse 120, not hard.

To take immediately,

Calomel;

Extract of colocynth (compound);

Extract of henbane, of each four grains, made into three pills;

Castor oil, half an ounce in two hours.

21. Evening. Medicine has acted powerfully; the pain has subsided; pulse 100; skin cooler.

22. Symptoms have quite subsided; complains only of feeling weak.

The subject of this last case had had prolapsus uteri for nine years, obliging her to wear a napkin constantly as a support, even during pregnancy.

I ordered her to keep in the recumbent posture for some weeks before her expected time, and to do the same for some time after her delivery. This advice she diligently attended to, kept the recumbent posture for three weeks after labour without intermission, and for the succeeding fortnight sat up only two hours daily.

There was no return of the prolapsus three months after labour, about which time she was seized with acute rheumatism. When she began to move about during her convalescence the prolapsus returned.

Aug. 10, 1840.

MR. FRENCH'S MODE OF OPERATING FOR STRABISMUS.

To the Editor of THE LANCET.

SIR:—I request you will favour me with sufficient space for a few remarks on the operation for curing strabismus, as performed by my friend Mr. J. G. French, of the St. James's Infirmary.

That gentleman is the first surgeon who has made any important improvement in the process first practised, though not first suggested, by Professor Dieffenbach. The abandonment of the hooks employed for the purpose of fixing the eye by the Prussian inventor, by Mr. Liston, by the French surgeons, and all who have attempted this operation, is attended with important consequences. The pain is diminished, the labour of the surgeon curtailed, and the after-treatment simplified.

I have operated with complete success in four cases, in the manner recommended by Mr. French, and I feel bound to bear my testimony to the sufficiency of his plan, a plan much more consonant with the simplicity of British surgery than the barbarous mode first promulgated, and hitherto acted upon.

The history of these cases I shall not give, because they do not include anything very novel; in proof of their authenticity, I shall merely state that they were respectively witnessed by my friends Mr. John Malyn, Mr. French, Mr. Smith, and Mr. Taylor. The following is the abridged fashion in which I went through the process in each case:—The patient was seated on a chair in a moderate light, and the assistant standing behind placed one hand over the sound eye, and with the other hand raised the upper lid of the affected organ. Upon the patient's turning the eye outwards, I snipped the conjunctiva over the under edge of the internal rectus, and introduced a curved probe under the muscle. By depressing the handle of the probe the point was brought forward, and projected a little above the upper edge of the muscle; a second snip with the scissors enabled the point to emerge; and, finally, the muscle was divided by the scissors upon the probe.

The operation thus simplified consists of but three steps:—

1. The nipping of the conjunctiva.
2. The introduction of the probe under the muscle.
3. The division of the muscle upon the probe.

From a perusal of this description, it is evident that various preliminary and subordinate arrangements, which have hitherto been considered essential to the operation, are perfectly useless; no bandaging of the sound eye; no speculum for the upper palpebra, and no tenter-hook of any form is employed.

The probe which I have alluded to consists of two stems placed parallel, at a distance sufficient for the point of the scissors to pass between. The pattern may be had of Ferguson or Savigny.

In order to throw into proper relief the merit of Mr. French's modifications, I must crave your further license for a few words.

Dr. Franz, the advertising pupil of Dr. Dieffenbach, has informed us that his tutor has operated on 250 cases; and the pupils of Mr. Liston have not been less zealous in announcing to the public the successive scores of cases which have fallen under the hands of their instructor. Other men, too, by various means, have bruited about their claims in the ears of the town. We have seen a vast sum of ingenuity, and some few shillings expended in producing modifications of hooks and scissors; and we have had the pretensions of some of these candidates for fame, supported in the dignified form of "official returns." Yet, notwithstanding all that has been thought, written, and done in Germany and in England, in relation to this subject, it was left for the plain and practical understanding of Mr. French to make the only real improvement that has yet been effected upon the original process.

Our Parisian confrères, though celebrated for their love of novelty, and stimulated by the special exhortations of Dieffenbach himself, have not been very fortunate in their efforts, and have not succeeded in devising any amendment of the first crude plan of the Berlin professor.

According to the *Constitutionel*—"Quant aux nouvelles et nombreuses opérations pra-

tiquées à Berlin par M. Dieffenbach pour la guérison du strabisme, et dont cet habille chirurgien envoie regulièrement la relation *un peu monotone* à l'Academie des Sciences; M. J. Guérin publie à leur sujet quelques reflexions judicieuses.

"Il paraît que M. Guérin *a amendé et perfectionné le procédé opératoire de M. Dieffenbach*, et que cependant il a été moins heureux que lui, puisqu' en effet et de son propre experience, il n'aurait obtenu qu' une guerison une peu parfaite."

The *Constitutionel* does not tell us what these important ameliorations are; but if the result be what is here described, it would be no presumption to recommend M. Guérin to abandon his improvements without delay.

"M. Roux," moreover, "parle sans enthusiasme de l'operation Prussienne, qu'il a lui-même pratiquée sans un succès tres marque." Why M. Roux, or any other surgeon, should speak with enthusiasm of an operation which is on a par with tooth-drawing, the writer does not explain.

The want of success of both these skilful surgeons is a remarkable fact, which cannot, of course, be solved, by the supposition that they did not divide all the fibres of the muscle.

The *Constitutionel*, following the "British and Foreign Medical Quarterly Review," ascribes the honour of suggesting this operation to Stromeyer; but it is a fact well known to many surgeons of this metropolis, that Mr. Anthony White, as long as twelve years ago, divided the internal rectus muscle of the eye in several living animals, and proposed it as a remedy for strabismus in the human being.

I beg to assure you, Mr. Editor, that my object in this communication is not to gain any ephemeral notoriety for myself (I am too conscious of the comforts of oblivion to entertain so vain a thought), but simply to do an act of justice, by inviting the attention of the profession to the claim of Mr. French, which the modest and unpretending character of his letter to you may cause to be overlooked. I am, Sir, your obedient servant,

D. O. Edwards.

15, Cheyne-walk, Chelsea,
Aug. 26, 1840.

NEW KNIFE FOR DIVIDING THE INTERNAL RECTUS MUSCLE.

To the Editor of The Lancet.

Sir:—There are still two important questions before the profession as to the mode of dividing the internal rectus muscle for *strabismus;* namely, Is the knife or the scissors the best instrument to divide the muscle? And is it advisable to employ a straight or slightly-curved grooved director to raise the muscle from the globe for the purpose of facilitating the division of the muscle? The objections to the use of the straight or slightly-curved director are the same under all circumstances; namely, the pain given to the patient during the act of passing the director beneath the muscle, which is always in proportion to the smallness and the depth of the eye, with respect to the brow and cheek, and the difficulty caused to the surgeon by the patient's resistance from the continued pain during the division of the muscle, or search after uncut fibres.

Therefore, it needs only to speak of the scissors and knife, as employed without a director. To the use merely of the scissors, the objections which present themselves are, the bruised wound, the irregular division of the muscle, and the difficulty which often arises of obtaining a sight of the fibres of the muscle after the first incision, for the inner canthus is generally filled with blood; and unless time be taken to sponge the part and stop the bleeding, the remaining steps of the operation must be involved in obscurity, and uncut fibres sought for and divided in the dark. To the use of a knife without a director or hook, the objections are so obvious, that I believe few surgeons have tried the experiment; though, I regret to say, I have seen a surgeon of very great experience attempt this, and the consequences were, as might have been expected, a wound in the sclerotica, and the escape of the vitreous humour.

Should the muscle have been secured by means of a hook, and a knife be desired to divide the muscle, two questions suggest themselves; namely, Should the muscle be divided from within to without, or from without to within? And what kind of knife is adapted for the purpose? The blunt-pointed bistoury has been employed to divide the muscle from within to without, between its insertion and the hook; but the objections to the use of the bistoury are, the difficulty of getting it under the muscle, particularly where the eye is small and sunken; the pain it occasions to the patient during the time it is being pressed forward and through the muscle, after the manner of a sharp wedge (there being seldom room to permit of any sawing motion with the edge of the bistoury, therefore it must, more or less, while being pressed forward through the muscle, raise the eye from its socket); and, lastly, the danger there is of the patient making an accidental resistance while a sharp-cutting instrument is fixed between the muscle and the globe. The common scalpel has likewise been employed to divide the muscle between the insertion and the hook, cutting in a direction from without, inwards; the only objections to which are, the difficulty the surgeon experiences in applying the cutting edge of the instrument in a direction favourable to a quick and clean

division of the muscle, and the danger, at the same time, of its being thrust into the eye during any sudden resistance of the patient.

To lessen these difficulties and dangers, I beg to suggest to the profession the use of a knife, which has afforded me the utmost facility in effecting a speedy and clean division of the muscle close to its insertion. It possesses all the properties of a scalpel; namely, utility, effectiveness, and safety, in a smaller space than any other instrument with which I am acquainted, that has been adopted for dividing the internal rectus muscle. The blade consists of two parts; a rounded portion resembling the blunt part of a hernia knife, and a small, sharp, flat extremity, having a transverse cutting edge, which at one end terminates in a shoulder, by uniting with a short, sharp, front edge, while its other extremity forms a point by meeting the black edge at right angles; so that we have the transverse *effective* part of the blade in immediate connection with the useful shoulder and point. The annexed engraving is a correct representation of the knife as made by Mr. Weiss.

The instrument described cannot be thrust into the eye by any sudden accidental resistance of the patient; and this safety is owing to the position of its straight-cutting edge, which does not require any sharp part of the knife to be directed towards the globe of the eye during any moment of the operation; the muscle being slightly raised across the blunt hook, its fibres are divided transversely by the knife, its edge being directed towards the hook, but at right angles to it, so that the flat side of the blade is held towards the eye. I am, Sir, your obedient servant,

JAMES J. ADAMS.

27, New Broad-street, City,
Aug. 27, 1840.

CRACKED TONGUE.

To the Editor of THE LANCET.

SIR:—Some time ago a country lad (aged 18) consulted me respecting "something that was the matter with his tongue." On examination, I could discover nothing unusual, excepting a deep groove, or crack, extending from the root to the apex; the edges of which groove or crack were somewhat elevated, rough, and irregular. The lad declared that he had suffered greatly from this affection during the last six or eight months; and that he had consulted several medical men, but had derived no benefit from their advice.

Of course, I looked to the stomach (the unfortunate organ to whose impertinence so many local diseases are speciously assigned) as the proximate cause of the lad's "bad tongue." Accordingly, I set about putting the digestive organs into "good order," and applied various caustics to the part affected, &c.; but at the end of two months the groove or crack in the tongue remained in *statu quo*.

The lad continued to call upon me until I was really tired of seeing him, finding that not the slightest improvement took place in his tongue. I have never seen a similar case, nor have I found it described in books; I was much struck, therefore, with the following remarks in the "Memoirs of Charles Mathews:"—"In a few weeks (says Mrs. M.) after these harassing struggles, my husband found an occasional inconvenience, that he had lately felt, augmented to a most serious disorder, his eventual sufferings from which were truly pitiable. I can only describe it by saying, that it showed itself in *deep cracks across his tongue*. Every advice was sought and attended to; but it baffled the first-rate skill and experience. It sometimes prevented him from eating, and banished sleep; and had he not been resolute in the prosecution of his duty, he must have declared it (as his medical men did) impossible to use it professionally. Every word he uttered was like a drop of aqua-fortis upon these cracks. This complaint had in turn been pronounced to be *stomach* and *local fever*, caused by anxiety and his great professional exertions. On the days of performance he often found it requisite to preserve a total silence until he began his "entertainment," when he described his sensations to be like what he must be sup-

posed to feel while talking and singing with a piece of red-hot iron attached to his tongue."

Now, Sir, one does not feel much surprised that the extraordinary man whose facetious volubility caused half the town to "crack" their sides with laughter, should in his turn get a "crack" in his tongue; but one cannot fail to remark, 1st, the great similarity between the two cases; and, 2ndly, the failure in both of the *methodus medendi*. I am, Sir, your obedient servant,

S. GODSON, M.D.

23, Upper Seymour-street West,
Connaught-square, August 26, 1840.

CASE OF SEVERE RHEUMATISM CURED BY NATURE.

To the Editor of THE LANCET.

SIR:—I beg to send you some statements under the above head. Much benefit would, in my opinion, accrue to medical men, if patients themselves more frequently laid before the public a statement of the effect upon them of medicines administered to them, and of the efforts of nature to restore them to health. It is from this conviction that I beg to explain here the mode in which I have recovered from a violent rheumatism.

During the winter of 1838-9, I was, for the greater part of the day, engaged in writing, and being generally very sensible to draughts of air, I took, indeed, care to keep the windows and the doors of my sitting-room shut; they closed, however, not quite, as is the case in the generality of the houses in London, and being obliged, for having a fire, to remove the chimney-board, there was always some draught in my room; in addition, a general draught was kept up in the house in which I then resided, and the whole site of it, Covent-garden Colonnade, was itself much exposed to draughts of air, as six or eight streets and lanes open on it. The whole of the day, when I was writing, the draught of air passed by my left side, and at the end of the winter I felt some difficulty in walking, but thought it would go off by itself, and took no medicine. In the ensuing spring, however, and summer of 1839, my complaint increased, when it became clear that nature could not cure it, unless assisted by external or internal medicines, or a change of my residence. When I next took the advice of medical gentlemen; one deemed an aperient necessary, the other an embrocation. To an aperient I objected, my complaint being of six months' standing, and having been in this manner almost incorporated in the system; in fact, German physicians never administer aperients in chronic diseases, as one or two would, at all events, not be sufficient, and a protracted treatment of this kind could only tend to delay the recovery of a patient. I then resorted to the embrocation prescribed for me, and consisting of a camphorate ointment; I rubbed with it the left hip and thigh, also the extremities of the left ribs; but though it first seemed to relieve me, it finally increased the difficulty which I found in walking, and the soreness of the region of the extreme left ribs. Probably the embrocation, which I continued for upwards of a month, was too strong for me, ammonia being added; I remember also having read in Germany, in a medical journal, that it was a prevalent error to suppose that rheumatic swelling of cheeks could be cured by the application of cushions filled with camphor, which rather protracted the evil, as the camphor more condensed the rheumatic substances than dispersed them. A milder embrocation of opodeldoc seemed at first to have a good effect on my complaint; but it was of too long standing to be cured by external means only. The principal difficulty was to get rid of what the modern medical school of Hahnemann now calls by a word from the Greek, "the psora," i.e., the injurious matter affecting the internal parts and causing the illness; in my case the psora was the diseased rheumatic matter inducing a partial lameness of the muscles, on which walking depends, so as to create difficulty in walking, and soreness of the parts over the left hip. Now, in this country, they put great confidence in colchicum, whose use is in Germany more confined to gout; it was, consequently, administered also to me, but weakened me generally, and my knees particularly, so that I discontinued the pills in which it was made up, after having taken them for upwards of six weeks, and never experienced any benefit from them.

About this time I saw in a London paper an article, the author of which stated, that aconite was in Germany now much administered in rheumatisms, and that he himself a graduate in medicine, who also gave his name, had cured a desperate case of this kind, by prescribing "extract of aconite a quarter of a grain twice a-day, gradually increased to six grains per day, to be taken with ten grains of Dover's powder." I began with Dover's powder, which I found to have a general invigorating effect, without particularly acting on my complaint. Of the aconite I then took in pills a quarter of a grain once a-day, but not twice, neither increasing the doses. This I found to strengthen the muscles, and I at one moment thought I should entirely recover by it. I continued these pills for about six weeks, and might then have left the remainder to nature, and the after effect of the pills. Because, however, in the London paper, a medical practitioner had stated that six grains might be taken per day, I thought there would be no harm in continuing to take half a grain per day. No sooner had I taken this quantity on two

successive days, when, probably by over-irritation, the former weakness of the knees and difficulty in walking returned.

I now resolved on leaving my case to nature to cure it; but to assist nature by a change of the air, and by choosing another lodging. Having had for some months the benefit of not being so much as before exposed to draught of air, nature began the work of cure, and first I had a good deal of sneezing. Supposing that it would be advisable to support nature in this effort, I took from time to time a few pinches of snuff; but the sneezing, as I now consider it, was the effect of an effort previously made by nature in the clearing of the internal system; and though it might itself also contribute to my recovery, still, from forcing it, I had no benefit. After having sneezed several weeks together, I had at night a good deal of perspiration over the hips, which caused me to resume my former embrocation of opodeldoc, and to rub it in exactly in the parts mentioned. Lastly, nature having become entirely master of the psora, and dispersed it, I got a cough, with moderate expectoration, which lasted for several weeks; and when it ceased I was as well as I could wish, and walk now as freely as I ever did before.

Rheumatisms are of frequent occurrence in this country; but the mode of their treatment should perhaps undergo some alteration. Colchicum should be totally excluded; but nothing is more beneficial in sicknesses of this kind, than to have the benefit of the morning sun, and to be attentive to the operations of nature. If I had disturbed nature when I first began to sneeze,' and at last to cough, my complaint would probably not yet have been removed. As to aconite, I should, from my experience, say, that six grains per day would consign many persons to their graves; but all to their beds for a long time. I am, Sir, your obedient servant,

JOHN VON HORN, D.D.,
of Göttingen.
12, York-street, Covent-garden,
August 24, 1840.

*** The above letter is a curiosity, and well exemplifies the adage, "A little knowledge," &c. The writer is evidently one of those self-willed persons who in a serious case would impede their own cure, by assuming an opinion opposed to that resulting from the careful study and knowledge of disease. In the last paragraph the author ventures upon a little advice, which, in consideration of his D.D.'ship, will be received by the profession with a smile. To the unlearned such persons are extremely dangerous; but we trust that the love of life will induce the afflicted to seek, on all occasions of disease, that assistance and advice which can be conferred with advantage only by those who have carefully cultivated medical science.

COPY OF MINUTES
OF
POOR-LAW COMMISSIONERS,
DATED AUGUST 20, 1840.

Minute of Instructions to be issued with respect to the Preparation of Contracts for the Extension of Vaccination.

CONTRACTS must be made under the Act to extend the practice of vaccination, in order to carry its provisions into effect in every place in England and Wales maintaining its own poor, whether such place be included in a union or not, and whether known by the name of parish, township, or vil, or by any other designation whatsoever. The officers, who are immediately invested with the duty of making contracts, are the guardians of the poor in parishes, unions, and incorporations, in which relief to the poor is administered by guardians, and other officers having similar functions to those of guardians, but having different names of office, such as visitors, governors, directors, managers of the poor; and where there are no such guardians or other officers, then the overseers of the poor. The extension of the provisions of the Act to all places maintaining their own poor, and to all the officers besides guardians and overseers, is an effect of the ninth clause in the Act, by which the like meaning is given to the terms used in the Act, as is given to the terms used in the Poor-Law Amendment Act.

The Act is generally to be carried into effect under the direction of the Poor-Law Commissioners. But the Commissioners prefer to leave, as far as may be possible, the introduction of the measure to the voluntary action of the local officers, and they will not issue compulsory orders except in cases where the provisions of the Act would otherwise fail of having their due effect given to them.

The first duty of the guardians and other local officers, will be to take into consideration the circumstances of the district, the number of persons who will probably require to be vaccinated at the commencement of the measure, and the probable average in succeeding periods. These considerations will enable them to come to a determination on the following points:—

1. The number and extent of the districts, and the number of the persons to be contracted with.

The guardians not being limited to the medical officers of the union, may make these as numerous as they think desirable;

they may contract, if they think fit, with every legally-qualified medical practitioner who may be willing to undertake the duty. But every addition to the number of medical practitioners will extend the number of returns and reports, and will probably, by diminishing the number of cases falling to the share of each, add to the amount of remuneration which each will require. Bearing these qualifications in mind, it will be desirable, for obtaining the objects of the Act (to the benefits of which all residents are entitled), to make the districts as small and the number of contractors as great as possible.

2. The stations at which attendance should be given by the persons appointed to vaccinate.

These should obviously be well-known places, and so placed that convenience of access may practically render them central to the aggregate population of each district. Where the contractors are numerous there will be less difficulty in determining the stations, and the residence of the contractor will often be the most convenient that can be chosen.

3. The number of attendances to be given in each quarter at the several stations.

Even in the cases when the station fixed on is the residence of the contractor, some fixed days of attendance should be contracted for and notified to the public. In some cases it may be sufficient to fix days for the operation at long intervals apart, as on the 1st of each month for the operation, and the 8th for the inspection. In such cases the days fixed should be such as will be easily remembered.

In all cases it will be desirable, in addition to the regular attendances, to stipulate for the services of the contractor whenever he is personally applied to at his own residence. This stipulation will at the same time tend to the ease of the contractor, will provide for contingencies, and will take away all pretext from individuals for neglecting to avail themselves of the benefit of the contract.

It will be of course understood that the contractor may, if he should think fit, visit any person at his own house and vaccinate him, on inspecting his case there; and that the contractor, having duly recorded and reported the case, should be entitled to charge for it as for a case vaccinated at a station, or at his residence.

4. The remuneration to be paid to the persons to be contracted with.

The Act prescribes the principle of remuneration. It is to depend on the number of persons who, not having previously been successfully vaccinated, shall be successfully vaccinated under the contract.

But the amount to be paid per case will depend on the circumstance before, and hereafter to be, adverted to. The Commissioners, after having made inquiry of several medical practitioners, and also adverting to the customary fees paid to medical men for examinations and certificates in the case of factory children and recruits for the army, have arrived at the conclusion that a payment of 1s 6d for every case of successful vaccination will, under ordinary circumstances, be an adequate remuneration to the contractor. If extraordinary circumstances should induce the guardians to agree with the contractor for a higher rate of payment, these extraordinary circumstances should be stated by the guardians in transmitting the contract for the approval of the Commissioners.

5. The various means which may be adopted to secure the most effectual carrying out of the measure.

The checks by which assurance is to be obtained of the effectual working of the measure, is a matter requiring the very sedulous attention of the guardians. The guardians must mainly depend on the contractor's returns for evidence of the success in each case.

The Commissioners will require in every case the adoption of returns in alternate books in the Form I. in the schedule to the form of agreement suggested below. And at every meeting of a Board of Guardians the clerk having first made out a summary of all returns in the following form:—

Date.	New Cases reported by			Total.	Successful Cases reported by			Total.
	Mr. A.	Mr. B.	Mr. C.		Mr. A.	Mr B.	Mr. C.	
Sept. 1	5	3	6	14	5	2	4	11
„ 4	4	4	7	15	4	3	4	11
Totals.	9	7	13	29	9	5	8	22

should read over, immediately after he has read the notices of marriages, the total number of new cases, and the total number of successful cases reported by each contractor, and should leave the books returned by each, open during the meeting of the Board. At the end of each quarter the sum of the totals of successful cases thus reported in each week, will give the number of cases for which payment is to be made to the contractors.

The certificate also set forth in Form II. in the same schedule, is indispensable. But the register in the Form III., though very desirable, the Commissioners will not require to be provided for in any contract by a Board of Guardians, who may be of opinion that it may be dispensed with.

When a Board of Guardians, or other competent officers, shall have taken the general arrangements into consideration, and thus come to a conclusion as to the terms of the contracts they would be prepared to enter into, it will be desirable that they should record in their minutes the result of their deliberation, and transmit copies of such minutes to the Poor-Law Commissioners, so far as relates to the terms and forms of the contracts. It is desirable that these contracts should be made in pursuance of an order under the hands and seal of the Commissioners, that they may be exempt from stamp duty. To facilitate this object, the Commissioners append a form of minute of terms of contract, to which they would be prepared to give their sanction :—

Copy of a Minute of the Board of Guardians of the Union, held at on the day of in the year one thousand eight hundred and forty.

The Board having made arrangements, as before recorded in these minutes, for carrying into effect the provisions of the Act passed in the year one thousand eight hundred and forty, to extend the practice of vaccination, took into consideration the general terms of the contracts to be entered into with the medical officers of the unions, and other legally-qualified medical practitioners, who may be willing to contract for the vaccination of all persons resident in the union, and they are of opinion that the general terms of such contracts should be set forth in the following form :

Contract for Vaccination, 3 & 4 *Vict. c.* 29. *an Act to extend the Practice of Vaccination.*

Articles of Agreement entered into this day of 184 , between (*a*) of the one part, and the Guardians (*b*) of the poor of the (*c*) in the count of of the other part.

It is hereby agreed, and the said (*a*) doth contract with the said (*b*) and their successors, that from and after the day of he will vaccinate all persons resident within the said (*c*) who shall apply to him at any reasonable hour of the day at his own residence, or at the times and places at which he shall, in conformity with the terms of this contract, attend.

And that he will, for the purpose of vaccinating all such persons, attend on every day in every week, from the hour of in the noon, to the hour of at in the parish of

And on every day in every week, from the hour of to the hour of at in the parish of (*d*)

And that he will, at all such times and places, duly vaccinate all such persons as may be present for the purpose of being vaccinated, and who may not before have been successfully vaccinated, and do and perform all such other acts and things as may be necessary for the immediate purpose of causing such vaccination to be successfully terminated.

And that he will keep two books, to be used respectively on alternate weeks, and will, immediately after he shall have vaccinated any person, and also immediately after he shall have inspected the progress of vaccination in any person vaccinated previously by him under this contract, make the entries described in the Form I. in the schedule hereto annexed. And that he will on the day next before such day of weekly meeting of the Board of the said Guardians, deliver to their clerk the book in which he shall have made such entries during the preceding week.

And that in every case in which the result of vaccination performed by him under this contract on any person shall be successful, he will give to such person, or to its parent, guardian, or nurse, a certificate of the fact, in the Form II. in the said schedule. And that he will also keep a *register* in the Form II. in the said schedule, of all cases of small-pox which he shall attend, and will deliver a copy of the same once in every

(*a*) *Name and address of the medical man contracting*, describing him as a medical officer of the union, or of a legally qualified medical practitioner, as the case may be.

(*b*) *Guardians, overseers, &c.*, as the case may be.

(*c*) *Union* or *parish*, being the whole of the district over which the guardians or overseers contracting have authority.

(*d*) Repeat this clause for as many stations as the contractor may agree to attend at.

quarter of the year to the clerk of the said Guardians on the (a)

And the said guardians do, for themselves and their successors, contract and agree with the said to pay to the said his executors, administrators, or assigns, within one calendar month after the 1st of January, the 1st of April, the 1st of June, and the 1st of November respectively, during the subsistence of this contract, and within one month after its termination, the sum of for every person who, not having been previously vaccinated, shall have been successfully vaccinated under this contract by the said and with respect to whom the said shall have made the entries, and given the certificate hereinbefore described.

(a) Days to be named, which will allow of the results to be forwarded to the Poor-Law Commissioners, with the quarterly abstracts of the union accounts.

And it is hereby further agreed between the said and the said Guardians, that this contract shall be liable to be put an end to by either of the parties hereto, on giving twenty-eight days' notice to the other party respectively, of the intention to put an end to the same.

In Witness whereof the said hath hereunto set his hand and seal, and the said Guardian their common seal, the day and year first above written.

Signed, sealed and delivered by the above-named in the presence of } *L. S.*

Guardian's Seal. The Common Seal of the Guardians of the above-named union, was hereunto affixed at a meeting of the Board of Guardians, held on the day or the date hereof, by Chairman of the Board at the said meeting, in the presence of Clerk of the said Union.

Schedule *referred to in the above Articles of Agreement.*

Form (I.)

Book 1.—For the 1st, 3rd, 5th, 7th, 9th, 11th, and 13th Weeks in every Quarter.

New cases.						Cases of preceding week.					
Date.	Name.	Sex	Age	State of H'lth*	Where Vaccinated.	Date.	Name.	Successful.	Unsuccessful.	Observations.	Where observed.
1 Sept 1849.	Y. Z.	..	..	..	Station A.	p . .	A. B.	S.	U.		Station A
,,	Z. Y.	..	..	..	Station B.	,,	B. C.	..	..		....
,,	W. V.	..	..	..	Station C.	,,	C. D.	S.	..		Station B
,,	V. W.	..	..	..	At my residence.	,,	D. E.	S.	..		Station C
,,	T. V.	..	..	..	At his parent's house, 10, King st.	,,	E. F.	1	..		At my residence.
2 Sept.	S. T.							3			

* If the state of health be good, or not otherwise remarkable, this column may be left blank.

Book 2.—For the 2nd, 4th, 6th, 8th, 10th, and 12th Weeks, exactly similar.

Form (II.)

Certificate.

aged , was vaccinated the 184 by me, and passed regularly and successfully through the disease.

(Signed)

You are desired to attend next that the Certificate may be filled up.*

* The above Certificate in blank should be given to the Person on whom the operation of vaccination has been performed, or to the parent, nurse, or other person having care of the child, immediately after the operation.

Form (III.)

Register of Cases of Small-Pox attended by me during the Quarter ending in the Year 184

Date.	Name of Patient	Sex	Age	Description of Case.	Result.	Patient had previously			When	Wher	By whom.
						Had the Small-Pox naturally, when?	Had the Small-Pox, by Inoculation, when?	Been Vaccinated.			
	A. B.					In 1804.					
	C. D.										
	E. F.						In 1821.				
	G. H.							Yes.	1821.	Manchester.	Y.Z., Apothe

Resolved:—That the clerk do transmit a copy of the said form to the Poor-Law Commissioners, and that the Poor-Law Commissioners be requested to issue an order that the same form be adopted in all contracts to be made in this union, under the provisions of the said Act, until further order shall be made in that behalf.

The Poor-Law Commissioners will thereupon issue an order to the following effect:—

Whereas the Board of Guardians of the union are about to enter into contracts for carrying into effect the provisions of the Act passed in the session of Parliament held in the third and fourth years of the reign of Her Majesty Queen Victoria, intituled, "An Act to Extend the Practice of Vaccination," and have requested that an order should be issued by us, directing that the said contracts should be made in the tenor and form above set forth.

Now, therefore, We, the Poor-Law Commissioners, having considered and approved the said form, do hereby order that the said form of contract shall, so far as the same may be applicable to the circumstances of each case, be adopted by the Guardians of the union in making contracts with medical officers of the said union, or other legally-qualified medical practitioners, under the provisions of the said recited Act.

Given under our Hands and Seal of Office, this day of in the year of our Lord one thousand eight hundred and forty.

The above order, prescribing prospectively the form and general provisions of contracts, will not dispense with the necessity of transmitting a copy of each contract when entered into by the Guardians, under the fourth section of the Act, for the allowance of the Poor-Law Commissioners.

THE ERLANGEN VECTIS.

To the Editor of The Lancet.

Sir:—I shall trespass on your space only with a few words on this subject, after the erudite composition of Surgeon Wardleworth, at page 782, who so generously sketches and eulogises the *Erlangen vectis* (for so it should be designated), "an instrument that," in *his* opinion, "must supersede the use of the forceps, which will literally become obsolete. How innocent is this surgeon of midwifery practice, hospital or private! I can fancy him going round the wards of the Dublin Lying-in Hospital (the first in Great Britain), and attentively watching for a few mornings the practice, and then expressing his surprise at his letter. What can have been the amount of his experience hitherto? What perfects the joke is, the remark that "a due observance of the rules for using the instrument must be attended to, that its success may be complete." What more could you say to an idiot, when giving him a spoon, than the Erlangen doctor says to the Faculty—"Mind, and don't put its convexity towards the roof of your mouth; and the best thing to find your mouth is your finger." Thus advises the doctor in finding the child's ear for the position of the head. The Erlangen examiners must be great novices to have accepted this thesis! We have heard nothing of the doctor's untoward cases. He had none. Point the Erlangen vectis at the patient, and the child will be born, though delivery has been previously attempted with the forceps and lever. When the "common vectis" failed, the Erlangen vectis nobly lent its aid. Yet, as Surgeon W. says, from his experience, it certainly requires some address for its introduction. I am, Sir, your obedient servant,

Nemo.

August 24, 1840.

THE LANCET.

London, Saturday, September 5, 1840.

In another page we have printed the Poor-Law Commissioners' Minute of Instructions to be issued with respect to the preparation of Contracts for the Extension of Vaccination. It is accompanied by a paper addressed to the Guardians, drawn up with considerable address, and some talent.

The Vaccination-Extension Act is, in many respects, highly objectionable; and we shall let no opportunity escape of wresting its execution from the unsafe hands of the Poor-Law Commissioners. But it will be found that much of the poison in the original Bill was neutralised by the clauses taken from the Small-pox Prevention Bill, and added to it in Committee; so that, although many surgeons will feel insuperable objections to the contracts, medical practitioners may contribute to extend the advantages of vaccination among the poor, without compromising their hostility to the usurpations of the Commissioners. The Guardians are authorised to contract with every legally-qualified medical practitioner who may be willing to undertake the duty. The Act does not confer a monopoly; and the Commissioners remark that, for obtaining the objects of the Act, it will be desirable to make the districts as small, and the *number* of contractors *as great, as possible*. But they qualify this just observation, by reminding the Guardians, in a friendly, confidential way, that every addition to the number of medical practitioners, will probably add to the amount of remuneration which each will require. The objects of the Act, the vaccination of the children of the poor, and the prevention of small-pox, will be best promoted by engaging as many qualified practitioners as possible in the beneficent undertaking. But take you care not to go too fast or too far, p ilanthropic Guardians, or your pockets may suffer. Think of your interests, officers of our Humane Society, or you may lose a shilling for every life that is saved!

Since the Act was passed, it has been proposed, in parts of the metropolis, to engage the parish medical officers to vaccinate at the workhouses as many children as may be brought, without any additional fee. Such was the plan of the wiseacres to "extend vaccination;" but luckily this was provided for. The Act prescribes the principle of remuneration. We foresaw that, in certain enlightened quarters, attempts would be made to restrict the operation of the Act, to appoint few vaccinators, and to make it their interest to vaccinate the smallest possible number of children. The remuneration, the Act says, is to depend on the number successfully vaccinated, and the payment will consequently be per case. Hear the money-clause of the Commissioners:—

"The Commissioners after having made inquiry of several medical practitioners, and also adverting to the customary fees paid to medical men for examinations and certificates in the case of factory children and recruits for the army, have arrived at the conclusion, that a payment of 1s 6d for every case of successful vaccination will, under ordinary circumstances, be an adequate remuneration to the contractor. If extraordinary circumstances should induce the Guardians to agree with the contractor for a higher rate of payment, these extraordinary circumstances should be stated by the Guardians in transmitting the contract for the approval of the Commissioners."

The Commissioners made inquiry of several medical practitioners, and fixed the fee at *eighteenpence*. They, no doubt, heard from some enemy of the surgeons, that it was all very well for THE LANCET, as the organ of the medical profession, to say the fee should be *half-a-crown*, but that a fee of *eighteenpence* was really enough. An *eighteenpenny* vaccination will do for the poor, according to Mr. COOPER, for instance. There are various ways of performing vaccination; old women do it with a pin and a bit of rag; Mr. COOPER may vaccinate his parish patients with an *eighteenpenny* lancet; he may take no pains in procuring fresh lymph, of good

quality, nor trouble himself to ascertain whether the operation be successful. But what we insist upon is, that the operation shall be as carefully performed for the poor as for the rich. There must be no half, spurious, delusive vaccination practised. In vaccinating the children of the wealthy, the lymph is taken fresh from the arm, on the right day, and carefully inserted; the progress of the pustules is watched, and the vaccination is repeated, if the result be doubtful. For this is charged five shillings, half-a-guinea, or a guinea; the child is safe, and the surgeon not over-paid. But Mr. COOPER can vaccinate the poor for *eighteenpence*. No doubt; and then he may be over-paid. What do the Poor-Law Commissioners say on this point? "The checks "by which assurance is to be obtained of the "effectual working of the measure, is a matter requiring the very sedulous attention of "the Guardians. *The Guardians must mainly "depend on the contractor's returns for evidence of the success in each case.*" The Guardians cannot say whether the cases have been successful. The returns of *eighteenpenny* practitioners, will be explicit; but can they be trusted? We doubt very much whether a man who charges one class of patients half-a-guinea, and who declares that *eighteenpence* is enough for the vaccination of another class of patients, can conscientiously allege that he has vaccinated the poor children with equal or adequate care. Mr. SMITH,—the ally of Mr. COOPER, who defeated the moderate proposal of a two-shilling fee for vaccination in the parish of St. Pancras,—sells halfpenny cigars, probably; but we presume that he does not let his Havannahs go for a halfpenny, even to the eighteenpenny smoke-and-popularity-hunting friends of his bosom. It is deplorable to reflect that Mr. SMITH and Mr. COOPER should sway the rich, charitable, enlightened parishioners of St. Pancras, who, in such a case as this, should have cared infinitely less about the amount of the fee than the efficiency of the operation: and it is lamentable to find that a vestry, which has hitherto shown itself superior in many thing to the Poor-Law Commissioners, should be the first to set them a bad example in a matter of little importance, perhaps, to the individual vestrymen, but of the highest importance to the poor neighbours who have been entrusted to their charitable supervision.

The Forms of Returns which are proposed by the Commissioners, are unnecessarily complicated. They have in Form I. two sets of heads: the first for *new* cases; the second for cases of the preceding week. This will give unnecessary trouble, and will confuse the Guardians; it should be simplified, and reduced to one *nominal* list, or divided into two separate papers; one containing the names of the vaccinated; another, the names, and all the particulars as to the result. The proposed form of contract is complicated and necessarily minute, as the parents of the child are deprived of all the responsibility with which they were to be entrusted by the Small-pox Prevention Bill. If the Vaccination-Extension Act have a paternal character, it can never be popular. That the head may be like the body, it is, perhaps, fitting that the bronzed Poor-Law Commissioners should supply that place.

THE state of the Metropolitan Lunatic Asylums has been frequently referred to in this Journal; and the criminal negligence of the Metropolitan Commission in withholding from the public all information respecting these ill-conducted establishments, has been animadverted upon, with deserved severity. The Commission was founded by the Acts of the 9th and 10th George IV., after a Parliamentary Committee of Inquiry, which was moved for by Mr. GORDON, and sat in 1826-7, during Mr. CUMING'S administration. Frightful and disgusting abuses were disclosed by willing and unwilling witnesses. Since that period the public have heard nothing of the Lunatic Asylums. The Commission, comprising from fifteen to twenty Commissioners, five of them physicians and two barristers, paid £1 an hour

for their services, reported annually to the Secretary of State, and subsequently to the Lord Chancellor. The first Statistical Report was presented to Sir ROBERT PEEL, and published. Nothing has appeared since that period, until Colonel SYKES read a paper before the Statistical Society in June, 1840. The Colonel is an unpaid Commissioner; and it is to his zeal that we are indebted for one of the most astounding documents which we have ever perused.

Colonel SYKES has published the official reports from May 31st, 1833, to May 31st, 1839. The patients of both sexes are distinguished into two classes: 1st, paupers; and 2nd, patients who are not paupers. The numbers existing at the commencement of each year are stated, the numbers admitted in every year, the numbers discharged, and the numbers that died in the respective establishments.

The returns are, we believe, accurate; and the Colonel has stated the facts fully, and without reserve. His calculations are altogether erroneous; but we shall advert to this at another time. From the silence of the Commission, it may have been inferred that all was going on satisfactorily in the metropolitan asylums, and that the inquiry of Mr. GORDON's committee had swept away all the horrors to which the poor lunatic was exposed. But what are the facts? What is the rate of mortality in the metropolitan asylums? Frightful, inconceivable, surpassing everything that the imagination could conceive. To 951 female paupers discharged, 443 died; to 839 male paupers discharged, 504 perished after an average residence of less than two years! With this single fact before them, the public will require to see the subject fully discussed. We shall return to it next week.

TOWER HAMLET'S PARK.

THE following address, signed by nearly 30,000 persons, has been presented to her MAJESTY. The case is ably stated, and requires no comment from us, further than this, that we believe the facts and arguments are well grounded. A glance at the map of the metropolis will show that there ought to be a *park in the east end of London*. Some persons, we are aware, believe that parks are exclusively intended for fine people, dandies on horseback, and splendid equipages, and will not fail to smile at the idea of a park for the recreation of the artisans and industrious classes of the Tower Hamlets. Paradise, we believe, originally meant "a Park;" and as the rich are told in the Bible that they will get to heaven with great difficulty, they appear to have determined on realising a compensation on earth by taking the paradises of the west to themselves, and leaving the infernal regions of the east to their poor neighbours. But a better epoch is, we hope, dawning on the country. The aristocratic and wealthy classes are beginning to perceive that their interests are identical with the happiness of the greater number: they are beginning to take an active, rational part in the education, and in the improvement of the physical condition of the great mass of the people, who create the wealth and constitute the essential strength of the nation.

We sincerely wish that her MAJESTY may grant the prayer of the petition. We know no more graceful act that her MAJESTY could perform, or that would be more gratefully remembered. A victory, in which her enemies were slaughtered, would not be remembered longer, though it should cost blood and countless treasure.

"TO THE QUEEN'S MOST EXCELLENT MAJESTY.

"The loyal, dutiful, and respectful address and petition of the undersigned inhabitants of the Borough of the Tower Hamlets, and others interested in the welfare of the vast and industrious population of that district.

"May it please your Majesty,—We, your Majesty's loyal and dutiful subjects, beg leave to approach the throne with feelings of profound attachment to your royal person, most respectfully entreating your Majesty's gracious interposition, under circumstances which we confidently hope will engage in our favour that sympathy and sense of jus-

tice which we believe to distinguish the character of your Majesty.

"The district of the Tower Hamlets, to which we solicit your Majesty's attention, forms the eastern part of the metropolis. It comprehends within it the magnificent docks, which render the port of London the admiration of foreigners; the silk trade of Spitalfields, the sugar refineries, and a large portion of those great manufacturing and trading establishments which have made this metropolis the commercial emporium of the world, swelled the resources of the empire, and added strength and dignity to your Majesty's crown. It contains a population exceeding 400,000 souls, nearly double that of any city or town within the British dominions.

"But while the artisans, manufacturers, labourers and others, composing this vast population, are, by their ceaseless toil, contributing to these important national advantages, adding wealth to the community, and stability to the throne, we feel assured that it cannot fail to excite your Majesty's generous sympathy to be informed, that a large portion of them are exposed to privations and calamities of which we would gladly spare your Majesty the recital. From a sense of duty, however, we feel ourselves compelled to inform your Majesty, that these poor people, closely crowded in confined districts, have no open spaces in the vicinity of their humble dwellings for air, exercise, or healthful recreation — circumstances which produce the most painful effects on their physical and moral condition. Exposed as they are from the fluctuations of trade to frequent privation, the miseries of want are aggravated by the continued prevalence of disease, and the ravages of death among them are, in some places, perfectly appalling. From official documents, it appears that the mortality in towns in general, from epidemic diseases, is double that of agricultural districts. But in the neighbourhood for which we implore your Majesty's gracious interposition, the mortality is more than double that of those parts of the metropolis which are more effectually ventilated. Fever is constantly prevailing in these places, which are, indeed, declared on competent authority to be 'the main sources and seats of the fevers of the metropolis.' Nor is it less revolting to contemplate the moral pestilence, which is partly produced and greatly aggravated by the want of open space. Unable to breathe the pure air of Heaven with their families, multitudes are driven into habits of intemperance, bringing in their train demoralisation, disease, and death. But we will not dwell longer on this picture. Happily we are enabled to assure your Majesty that these afflicting evils are not beyond the possibility of remedy or alleviation. The same official authority which has demonstrated the mortality, declares that 'it may be immeasurably reduced;' and among other means there is expressly suggested the formation of 'a park in the east end of London,' as likely to 'diminish the annual deaths by many thousands.' It is for the attainment of this most interesting and important object that we humbly, but earnestly, implore your Majesty's gracious interposition.

"We are sure that we do not miscalculate the principles and the disposition of your Majesty, in feeling persuaded of the delight it would afford to your Majesty to be instrumental in prolonging the lives of 'many thousands' of your Majesty's faithful subjects, and in removing from them the prolific sources of poverty, crime, disease and death. This we believe to be now in your Majesty's power; but, if the present moment be lost, it will be beyond the reach even of Royal intervention to apply the remedy. The rapid increase of buildings eastward of London has extended its streets to the very verge of the county, and is yearly inclosing its population more densely and pestilentially. Space yet remains, which, if not promptly secured, will, in a few short years, serve but to swell the mighty torrent of evil. We entreat your Majesty to grant to your devoted subjects the inestimable benefit of the occupation of that space for a Royal park.

"We are confident that the necessity for any reasonable expenditure, were such expenditure unavoidable, would not be admitted by your Majesty as a valid objection to a measure calculated to confer such great and permanent benefits; but we believe it will be found that the boon we ask may be granted with trifling, if any, ultimate burden on the public resources.

"We are so anxious that this great public improvement should originate from the gracious and spontaneous desire of your Majesty to promote the welfare and happiness of your subjects, that we are unwilling to advance any other argument in support of our appeal; still more unwilling are we to claim, as an act of justice, what we should prefer to accept as an act of Royal favour only. We cannot, however, but draw your Majesty's attention to the facts, that from the bounty of your Majesty's Royal predecessors, the inhabitants of western London have long enjoyed the advantages of the public use of St. James's, the Green, and Hyde Parks; and that to those resident in the northern parts of the metropolis, a similar boon has in our own time been extended in the formation of the Regent's Park. The inhabitants of eastern London possess no such advantage; and we therefore, with profound deference, submit to your Majesty the propriety of removing a distinction which can scarcely fail to be regarded as invidious by a dense and suffering population, whose loyalty is equal, whose necessities are more urgent, and whose gratitude for your Ma-

jesty's favourable consideration of this their earnest petition will be as unbounded as its consequences will be beneficial.

"In the name, therefore, of those virtues and generous sympathies which peculiarly attach to the sex, the age, and the elevated station of your Majesty; for the sake of that common humanity which knows no distinction of rank or station; for the promotion of the physical and moral welfare, and the social and domestic happiness, of your faithful subjects, we earnestly pray—

"That your Majesty will be graciously pleased to direct that inquiry be made as to the practicability of forming within the Tower Hamlets a Royal Park, in which the comfort and healthful recreation of all classes of the inhabitants shall be adequately provided for, on a scale commensurate with that of the other metropolitan parks—worthy of bearing the name of your Majesty, and of becoming a monument to future generations of your Majesty's taste and patronage of public improvements, and still more of the anxious desire of your Majesty to contribute to the happiness of your loyal and devoted subjects."

UNIVERSITY COLLEGE HOSPITAL.

PHAGEDÆNIC ULCERATION OF THE LEG—NECROSIS—AMPUTATION.

C. K., aged 21, was admitted November 30, 1839, under the care of Mr. Cooper. Four months ago she struck her leg against a pail. A small ulcer was the consequence. This has increased up to the present time. She has now an indolent ulcer about the middle of the leg, over the tibia, three inches long and two inches broad.

Dec. 2. At this time there were some very foul sloughy ulcers in the hospital, and particularly in the opposite ward, and to-day the ulcer on this patient's leg appears dark-coloured, brown, and sloughy. To have a carrot poultice applied to the ulcer; to take internally, quinine and muriate of morphia at bedtime.

5. The ulcer has extended, and has a very sloughy appearance; the edges are everted and inflamed, but there are no vesicles on them; appetite bad; tongue coated; pulse feeble; the edges of the ulcer were freely touched with nitric acid. To be supported with wine and beef tea.

7. The nitric acid has not arrested the sloughing which has extended beyond where the acid was applied. It was again freely applied to the ulcer; nitric acid lotion, with opium, was also applied to it. To have an opium powder at bedtime. On the 8th and 9th, the nitric acid was again applied to those parts of the ulcer at which the sloughing process did not appear to be arrested. One grain of opium was given three times a-day.

10. The sloughing has ceased, and,

12, The sore appeared healthy. Two inches of the tibia are exposed; health and strength improved.

17. Ulcer quite healthy and granulating; bone exposed.

1840, Jan. 6. In much the same state as a month ago.

April 9. Has continued much the same, as at the last date, up to the present; no bone has come away, and a great part of the shaft of the tibia has become exposed; her health is bad, and she is gradually getting into a hectic state; pulse very quick; sleeplessness. It was thought unadvisable to remove the cicatrix, and amputation below the knee was proposed. The operation was performed to-day by making a long anterior flap and amputating close below the knee; the limb was first transfixed, and then the flap made. In the evening the stump was put up in the usual manner.

May 15. The wound is healed; a small piece of bone, about as big as a pin's-head, has come away. There is a small fistulous opening leading towards the tibia, which bone cannot be reached.

On examining the sequestrum it was found that the anterior part of the tibia was dead; there was then a layer of healthy bone, but the inner part of the posterior aspect of the bone near the medullary canal was also necrosed. The vessels of the granular surface were minutely injected, and showed small, flocculent granulations fitting into the small inequalities of the necrosed bone.

During the cure of the case a small piece of bone came away, but the wound was not very long in healing. Her general health was soon recruited, and on the 20th she was discharged, cured.

EXCESSIVE UTERINE HÆMORRHAGE.

SUCCESSFUL EMPLOYMENT OF

TRANSFUSION.

To the Editor of THE LANCET.

SIR:—The accompanying case is at your service for insertion in THE LANCET. I am, Sir, your obedient servant,

GEORGE MAY, Surgeon,
Royal Berks Hospital.

Reading, August 28, 1840.

Mrs. H——g, aged 29, of spare and delicate habit, was in the fifth month of her fifth pregnancy. She had frequent hæmorrhage from the second month, which was disregarded; but becoming more profuse, and persisting after the period of quickening, she became alarmed, and sent

for me. A soft and bleeding substance was felt attached to and within the posterior labium of the os uteri, which I presumed to be placenta; she was pallid, excitable, and her strength much reduced. Secale was commenced in small doses of half a drachm of tincture every four hours; augmented to

Infusion of the secale, ℥jss;
Tincture of ditto, 3j. To be taken every four hours, and continued for four days.*

On the evening of August 18, uterine action commenced, and the fœtus was expelled about two o'clock, A. M., August 19, with considerable hæmorrhage, the placenta being partially extruded. The use of cold, a sponge plug, with the free exhibition of stimulants, promptly arrested the hæmorrhage. The collapse, however, was extreme, the lips blanched, the skin and breath cold; radial pulse scarcely perceptible; breathing rapid and embarrassed, with frequent vomiting; but neither jactitation, delirium, nor syncope. In this state she continued until five o'clock, A. M., without rallying; the respiration was now gasping, and she was apparently sinking. I was convinced that unless saved by transfusion, death would speedily follow.

Dr. Cowan, and my partner Mr. Harrison, having arrived, and concurring in this opinion, and in the expediency of transfusion, I proceeded, with their able assistance. The directions of Dr. Blundell were implicitly followed.† Our patient began to rally after receiving 8 ounces, and continued to improve after each syringeful, until 24½ ounces had been injected, when a slight turbulent action of the carotids occurred, which subsided in a minute or two, not the slightest distress having been occasioned. The blood was obtained from the healthiest males we could procure, and four were required for the purpose.‡ The blood was injected cautiously, the process occupying rather more than two hours. The apparatus used was a 2-ounce syringe, with tubule, 4-ounce graduated measure, scalpel, probe, and lancet.

Since Dr. Blundell established transfusion to be a means of resuscitation in cases of extreme hæmorrhage, several successful cases have been published;§ but I do not find that so large a quantity of blood was injected in either case as in the present.

The placenta was expelled without further hæmorrhage at three o'clock, P. M., 20th. She progressed favourably until the 25th, not suffering from phlebitis, uterine irritation, or from any appreciable symptom arising from the transfusion, but merely the ordinary nervous distress which generally follows severe hæmorrhage, and we indulged the hope of recovery. On this day, the 25th, hæmorrhage recurred; and, although soon checked, she lost a considerable quantity. This was followed by jactitation, delirium, and vomiting, and she died in the night of the 27th.

Inspection post-mortem refused.

I consider this case to be worthy of record, on two points:—

1st. Showing the power of secale to originate uterine action at the fifth month.*

All these cases had advanced nearly to or beyond the seventh month.

It is obvious that her constitution could not bear up against the constant draining; that her chance of safety depended on an early expulsion of the uterine contents; and that manual interference was specially forbidden by the state of the os uteri.

2nd. The effects of transfusion.

It is difficult adequately to convey to the reader the effects produced; the apparently sinking and hopeless condition of our patient before transfusion; her gradual resuscitation; and the entire absence of distress or apparent inconvenience, either immediately or during the continuance of her life. She was not conscious during the operation, and did not afterwards know that it had been performed, imagining that she had only been bled in the arm. I regret that (occurring in private) it could not be more numerously witnessed, as the most sceptical, I think, must have been convinced.

I should have rejoiced could I have published her eventual recovery. The long-continued draining before abortion was effected, induced a most fearful state of system; yet the effects of transfusion were so unequivocal and satisfactory until the hæmorrhage recurred, that there seemed to be no reasonable doubt of recovery. I venture to submit, therefore, that the fatal issue of this case does not detract from the value of transfusion; but that, under judicious use, it must be regarded as a most invaluable means of resuscitation in cases of extreme hæmorrhage.

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* The tincture of secale was prepared with secale, lbss; proof spirit, lbj. The infusion with 3ss secale to ℥jss of water.

† See Blundell's "Researches," "Lectures," &c.

‡ The husband of the patient being a master bricklayer, a choice of men was procured at an early hour of the morning.

§ See cases in LANCET, &c. &c.

* Cases by Dr. Ramsbotham, "Medical Gazette," June 28, 1834. Dr. Paterson, do. Sept. 8, 1838. Ditto, do. June 1, 1839. Mr. Hearne, do. Jan. 26, 1839.

BLOODLESS PLACENTA.

To the Editor of THE LANCET.

SIR:—In consequence of the peculiarity of the subjoined case, I transmit it for insertion in your excellent Periodical.

Mrs. B., ætat 34, advanced, for the third time, to the last month of pregnancy, had, at intervals during its latter period, been subject to profuse hæmorrhages. At about nine o'clock, on the evening of Sunday, the 1st of March, I was requested to attend her; but as the case, from the examination which was instituted *per vaginam*, did not indicate symptoms of approaching labour, I left her. She continued *in hoc statû* until the following evening, when the case assumed a very different aspect. The dilatation of the os uteri, together with mucosity of the vagina, &c., began to manifest signs of a speedy delivery; and at one o'clock, A. M., on the following morning, she was confined with a living child; but immediately after its delivery, and on division of the funis, which was strong, thick, and cartilaginous in appearance, *not a drop of blood exuded*. On the placenta being removed, the greatest characteristics it presented were its *whitish* appearance, and the *total freedom* of its surface from the vital principle (blood). On the second day, however, the lochia appeared, but so scanty as scarcely to admit of the term, and ceased within half an hour afterwards. I may observe that the case proceeded favourably, that the motions of the fœtus were occasionally felt during the latter periods of pregnancy, as also on the day prior to her accouchement, and that the child lived a fortnight. As the patient had not menstruated up to the 26th of July, and having, during the eight or ten days previously, complained occasionally of a sensation of weight and pain in the uterine region, I concluded that the case was now somewhat analogous to amenorrhœa. The grounds which led me to suspect this were verified by the result. Warm applications to the hypogastric region were directed and persisted in, and the menses were again renewed, and continued more or less for the space of four days.

Is not the preceding case a most unusual, and I may say hitherto unexplained one, in this enlightened period of medical discovery? I am, Sir, your most obedient servant,

M. REDMAN, M R.C.S., &c.

Laceby, near Grimsby,
August 29, 1840.

FATAL CANCRUM ORIS.—INQUEST ON THE PATIENT.

To the Editor of THE LANCET.

SIR:—As the following case of "cancrum oris" in which it was deemed expedient to institute a medico-legal inquiry, must necessarily be interesting to your numerous readers, I take the liberty to send it for insertion in your valuable Journal. The "Morning Advertiser" of Thursday, Aug. 20, contained the most correct account of the proceedings; I have, therefore, transcribed them from that journal,* and have added some remarks which were accidentally omitted. I am, Sir, your most obedient servant,

ED. A. CORY, M.D., M.R.C.S.L., &c., Obstetrical Superintendent of the Duchess of Kent's Midwifery Institution; Consulting Accoucheur to the Lying-in Institution, and Females' Dispensary, Mile-end-road; one of the Accoucheurs to the Royal Maternity Charity, &c.

Cannon-street-road, Aug. 21, 1840.

The other evening an important inquiry took place before Mr. Baker, touching the death of a child four years of age, the daughter of Mr. Clark, a carpenter, residing in the New-road, who, it was alleged, came by her death in consequence of mercury having been improperly administered to her by a medical gentleman named Cory. The affair excited considerable interest in the neighbourhood, and twelve of the leading practitioners of the district were present, including Messrs. Adams and Curling of the London Hospital; Messrs. Tripe, Major, Garrett (parochial surgeon), Gurney; several gentlemen from St. Thomas's and Guy's Hospitals also attended. The body presented a horrible spectacle; it was very much emaciated, and one side of the face was completely eaten away.

Mary Ann Clark, the mother, stated, that the deceased was taken ill about seven weeks ago, having previously had good health: the complaint was hooping-cough, accompanied by spitting of blood, and she called on Dr. Cory, of Cannon-street-road, who saw her until the following Monday, in all five days. On the fourth day after his attendance, the child complained of soreness of the mouth, and her teeth were very loose and came out; the next thing she noticed was the tongue and the inner part of her cheek; both were much swollen, and risen in white blisters, so much so that her side and double teeth became imbedded in the side of the cheek.

* We have curtailed the report of a few superfluous lines.—ED. L.

Dr. Cory, when she first consulted him, recommended her to send the child into the country to get rid of the hooping-cough, but she would not agree to this, as she was dissatisfied with Dr. Cory from his carelessness about the case, and sent for Mr. Rutherford, a surgeon of Ratcliff-highway, who stated that the patient ought not to be removed into the country, and that he thought it ridiculous for any medical man to advise such a thing. Mr. Rutherford advised that the child should be kept warm, but Dr. Cory had ordered her to give it all the fresh air she could, although she had told him that when she did so that the child always fainted away. [The child was kept closely confined in a little back apartment, in immediate approximation with coals and vegetable matter in a state of decomposition.—*E. A Cory.*] Mr. Rutherford declined to interfere in the case, when he found that Dr. Cory had attended the child. The child got gradually worse, and she took it to Mr. Curling, who operated on the cheek; on the following day she again took the child to Mr. Curling, at the London Hospital, but he gave no hopes of recovery, as mortification had commenced. A medical gentleman on the spot attended the deceased after this, until her death, which took place on Monday morning. She called several times on Dr. Cory as she came from the hospital, but never could see him; she left word for him to call at her house, but instead of doing so he sent the following note:—

"Dr. Cory sends his respects to Mrs. Clark, and begs to decline attending the child, and recommends Mrs. Clark to those (if she can find them) who will do more for its benefit and pay more attention. Mrs. Clark will be so good as to remember that, in the first instance, Dr. Cory told her that medicine would not do the child much good, and the only chance of its recovery would be in the removal of it into the country for a time. If Mrs. Clark had thought proper to comply with this recommendation, the child would have had a very good chance of getting well. The idea of the child having had mercury is too ridiculous to be noticed; and Dr. Cory is surprised that a person of Mrs. Clark's apparent good sense should entertain for a moment such an absurd opinion; Dr. Cory has the honour to attend nearly all the most respectable inhabitants of the neighbourhood, and he is *too much occupied and too independent to put up with any nonsense from any of his patients.*

"Cannon-street-road, Aug. 18, 1840."

Dr. Cory had told her that the complaint of the child was hooping-cough; he also gave it (the malignant disease) another name, which she could not recollect.

Dr. Cory.—I told you the deceased was affected with "cancrum oris," which means "canker of the mouth."

Mrs. Clark.—There were no symptoms beyond hooping-cough and spitting of blood, until the child had been four days under Dr. Cory's treatment, when small blisters showed themselves in the mouth, and the teeth became loosened. [The whole evidence of the woman was of the most rambling and exaggerated description; there were not the slightest symptoms of any affection of the mouth the last time I saw the child, which was five days after I had first prescribed for it. It was stated that an illegal practitioner in the neighbourhood had insinuated to the mother that the child had been improperly mercurialised.—*E. A. Cory.*]

Coroner.—Who wished this inquest to be held?

Witness.—Both my husband and myself, as we were dissatisfied with Dr. Cory's treatment of the child. [The first proposition of an inquiry emanated from me.—*E. A. Cory.*]

Cross-examined by Dr. Cory.—You did not say in my hearing that medicine could not do my child any good; all that I know is, that you gave orders to your assistant not to supply me with medicine unless I paid for it. Dr. Cory said, he was willing to allow his book, in which was written every thing he had prescribed for the child, to be examined by the medical gentlemen present, who would find that he had not sanctioned the administration of a single grain of mercury. Indeed, he should hardly have advised the removal of the child into the country, if he had thought it necessary to put it under the influence of mercury. Dr. Cory here read an extract from "Cooper's Surgical Dictionary," descriptive of cancrum oris; the symptoms exactly corresponded with those described by the mother. The disease was one that seldom, if ever, affected adults.

Several of the medical gentlemen present stated, that they had examined the book containing the prescriptions, and could not find that any mercury had been given; they considered the treatment quite proper.

Mr. Blizard Curling, surgeon to the London Hospital, deposed, that the child was brought to him a fortnight ago; there was a large spot of mortification on the left cheek; the disease was of such a decided character, that he told the mother it could not recover; he gave it a ticket for the hospital, and prescribed the usual remedies; he asked if the child had been taking mercury, and was shown a powder, which he did not test, but advised that it should not be given to the deceased; the disease was a very singular one, and in the incipient stages white livid spots would arise, the teeth become loose, and other symptoms exhibit themselves, which will often arise where not one grain of mercury has been administered; cleanliness and fresh air were very essential in curing the disease called cancrum oris; per-

sons afflicted with it would stand very little chance of recovering in such a confined and densely-populated neighbourhood as St. George's in the East.

A Juror asked Mr. Curling why he advised the discontinuance of the powders?

Mr. Curling.—Because he was not then aware of what the powders were composed.

A Juror.—Is the disease contagious?

Mr. Curling.—It was difficult to say, but he was inclined to think it was; it principally affected children between the ages of eighteen months and seven years.

Mr. Tripe, a practitioner of twenty-two years' standing, had had two cases of cancrum oris lately in his own practice; he had not given them any calomel, or other preparation of mercury.

Mr. Major had had a similar case.

Mr. Garrett, parochial surgeon of St. George's in the East, was decidedly of opinion that the disorder in question was a kind of epidemic, principally confined to densely-populated districts, where the ventilation was defective. If all the metropolitan thoroughfares, inhabited by the lower classes of the community, had a free current of air through them, the health of the people would be greatly improved: thousands of the poor, especially in the east end of London, never get a mouthful of pure air for months together; indeed, a gleam of sunshine was quite a treat to them.

The Coroner.—No doubt the mortality of the metropolis was greatly increased by the lack of fresh air.

Mrs. Clark said her child had not suffered from any want of cleanliness, and she should never be convinced that it was not killed by mercury.

The Coroner said, that the feelings of the mother were very natural, but it was quite evident she was in error; the jury and the medical gentlemen present had examined Dr. Cory's book, from which it appeared that not a single grain of mercury had been administered to the deceased; the mother was evidently labouring under a mistake relative to the treatment.

A Juror.—I consider the case to be one of great importance to the public generally; we are all occasionally in the hands of medical men, and it is necessary that a strict watch should be kept upon them, in order to prevent improper medicines from being administered, from which the most lamentable consequences have but too often ensued; but in the present instance no blame appears to be attributable to the surgeon.

The Coroner remarked, that in a case like the present an inquiry was of the utmost importance, not only for the satisfaction of the friends of the deceased, but also in justice to the medical attendant. It appeared from the testimony of the numerous medical men present, that the treatment of the child was perfectly correct; and it is probable that had Dr. Cory's advice been taken, and the child sent into the country for the benefit of the fresh air, it would have been alive at that moment.

The jury returned a verdict of "Natural death from cancrum oris, and that death was in no way accelerated by the medical treatment of the child."

VACCINATION IN ST. PANCRAS.—MR. T. H. COOPER.

To the Editor of THE LANCET.

SIR:—A very ill-natured and, as I think, uncalled-for attack upon Mr. T. H. Cooper, who is a respectable general practitioner in Grafton-street, appeared in last week's LANCET, I am satisfied that nothing is less applicable to him than the opprobrious term, "paltry barber-surgeon."

I need not refer to the honours he obtained whilst attending lectures; but I may observe, that he is now acting for the Reform party in St. Pancras, who have returned him as a vestryman; and their opinions may be best discovered by the following resolution, passed at a meeting of the Southampton District Committee, which consists of 600 members, held on Monday last:—

"That, in the opinion of this committee, the introduction of the provisions of the Vaccination Act into this parish, considering the number of establishments where vaccination can be obtained gratis, is unnecessary; but, as the adoption of the Act is made imperative on the parochial authorities, in the opinion of this committee, the sum of 1s. 6d. per head for every successful vaccination is amply sufficient; and the thanks of this meeting are justly due, and are most cheerfully given to T. H. Cooper, Esq., one of the directors of the poor, for his opposition to any greater sum being paid, this committee considering Mr. Cooper, in so doing, sacrificed his professional interest to the interest of the rate-payers.

"THOS. ALDIS, Secretary."

I understand that Mr. Cooper did not use the words placed within inverted commas in THE LANCET, which seems to have been the excuse for the attack; but be this as it may, you will admit, that although THE LANCET may differ from the conclusion to which Mr. Cooper came, there is no necessity for the use of terms which may injure his professional prospects. Your attention to this will oblige, yours truly,

Aug. 27, 1840. VERITAS.

*** The foregoing note has been authenticated by the name and address of the writer. We can have no possible desire to injure the professional prospects of Mr.

Cooper. It was his apparent attempt to affect the professional interests of his brethren, that elicited the remarks in THE LANCET. We are assured that Mr. Cooper is really what our correspondent has described him to be, and we therefore the more regret that he did not think his professional brethren worthy to receive the larger sum per case for vaccination. Observe the trouble which falls to the lot of the vaccinator, for which Mr. Cooper thinks that *eighteenpence* is a sufficient remuneration:—He must, if he wish conscientiously to fulfil the intentions of the Vaccination Act, seek out the patient requiring vaccination; in some cases only will he have the child brought to him. It has been well observed in the resolution contained in the above letter, that there are "a number of establishments where vaccination may be obtained gratis," and yet Government has deemed it necessary not only to pass a new Act upon the subject, but has also most wisely rendered it compulsory on parishes and unions to see that the clauses of that Act be fully carried into effect. One reason for this rigorous enactment is, that mothers have a prejudice against the operation. Medical men have to conquer that prejudice by kind reasoning and attention; they must seek out the patient; they must frequently repeat the operation a second, a third, and a fourth time; they must again visit the patient when the pock has become successfully developed, for at this period another prejudice rises in the mother's mind—against the removal of the lymph, for the purpose of communicating the benefits of the operation to others. He has, moreover, to make a return of his cases to the parish, and all this the members of a liberal profession must perform for *eighteenpence*. We think we see the sister professions smiling at our fall! And yet we are told that there are medical men, members of our profession, who coincide with the Poor-Law Commissioners in thinking this wretched sum enough. We cannot, indeed, envy them their humility.

PROFESSIONAL ETIQUETTE.

To the Editor of THE LANCET.

SIR:—As a constant reader of THE LANCET, I beg the favour of your opinion in the following case:—

A medical practitioner in the town in which I am an assistant, was requested to visit one of his patients, who was supposed to be in labour. Being unable to attend himself he sent me. On my arrival at the house I found that labour had not set in, the patient not having gone within a fortnight of her full time. I ordered her an anodyne draught to allay the pains, and, at the expiration of three weeks, we were again requested to see her, as she was then in labour. Being both of us out visiting at the time, our dispensing assistant requested another medical man in the town to attend the case for us, without delay. He obeyed the call, and on returning home, after the labour was concluded, he stopped at our door, to say that all had gone on well, and, at the same time, to book the case, according to custom. Strange to say, this very Gentleman subsequently monopolised not only the midwifery case, but the medical attendance on the whole family. Upon hearing this, I wrote to him to know whether he intended to continue visiting the patient who was confined to its conclusion, or to give us up the case. His answer was, that upon the night of the day on which he attended the labour, the patient wrote for him to see her, she not feeling very well, and that he had visited her on that day, the *third*, and had ordered her some medicine, as usual in midwifery cases. Now, Sir, was this a breach of etiquette on the part of this medical practitioner, who, in the first instance, acted kindly towards us, and, in the second, in the manner I have described. I am, Sir, your obedient servant,

Aug. 9, 1840. J. H.

*** We erase names from this letter. The conduct described in it is not consistent with the custom which guides honourable men in their dealings with each other. Whatever steps are taken in such cases to adjust the question,—who shall continue to be the medical attendant of the patient or the family, the free-will of the latter being the first principle to be respected,—the refusal to observe either principle or rule of any kind on these occasions, converts the medical practitioner into a professional brigand, whose company should be shunned.

DISEASED MILK IN THE COW.

IN the month of August last, writes Mr. Mayer, of Newcastle-under-Lyne, a farmer requested my advice about a cow, from whose milk a whitish sediment was deposited at the bottom of the pans to the extent of nearly one ounce per quart.

He stated, in answer to my inquiries, the following particulars. After he had had the cow about two months, she was put to the bull, and during that week she did not give her milk freely; but they perceived,

what had never taken place before, a thickish sediment at the bottom of the pans, which remained, on the milk being poured off, and which being dried, had the appearance of very fine chalk. This sediment was not regularly deposited. On some days there was no appearance of it; but if the cow did not give her milk so freely as she ought to do, a habit she was very guilty of, there was always afterwards a very considerable sediment. The quantity of milk at this time was diminished, but not altered in taste or colour; the butter, however, was much whiter than natural, and had acquired a sharp acrid taste. The soil of one part of the farm was of a marly nature, the other part of a dark sandy appearance, and newly-inclosed common land. The water was very good. The cow's appetite was not affected, and her bowels and urinary secretion were regular. The farmer has still the same cow, and she continues, though at much longer intervals than before, to part with this substance in her milk, and invariably after holding it, which she was too frequently apt capriciously to do.

I forwarded some of the substance to my kind friend, Mr. Morton, of the Veterinary College, for examination, and the following is his opinion with regard to it:—

"Its appearance is that of a chalky-white substance, having neither taste nor odour. It is slightly absorbent and insoluble in water. Its powder feels soft between the fingers, and, viewed as an opaque object under the microscope, it at first appears amorphous; but, on closer inspection, several minute crystalline plates are perceptible in it. A fragment subjected to the action of the blowpipe loses about half its weight, becoming black and exceedingly friable, during which it emits an odour resembling burning animal matter. If the flame be allowed to play on it for some time, it again becomes white. Boiled with caustic potash, it exhales the smell of milk, mingled with faint ammoniacal fumes.

"Hydrochloric acid being added to it, a solution of the earthy parts readily takes place, accompanied with an extrication of minute bubbles of gas. The residuum possesses viscosity, and is coagulated by acids. When the solution is agitated, minute flocculi give to it a turbescence. These being removed, and water of ammonia added to the transparent solution until neutral, a gelatinous deposit takes place. Phosphate of soda and ammonia induce slight opalescence in it. Oxalate of ammonia throws down an abundant white precipitate from it.

"From the above analysis, I am induced to infer that it consists of about one-half of animal matter, probably caseum; the other half consisting of the phosphate of lime, with a little carbonate of lime and ammonia."—*Proceedings of the Veterinary Medical Association in the Veterinarian*, August, 1840.

MR. BUCKMAN'S REFUSAL TO SELL QUACK MEDICINES.

To the Editor of THE LANCET.

SIR:—Convinced of the evils of quackery, I determined, when I commenced business, never to have anything to do with the sale of quack medicines, and I thought it right to announce my intention in my advertisements.

Hostility and abuse from druggists, and from all who profit by quack medicines, would not have surprised me, but I did not expect to meet with misrepresentation from you. It is most unfair to consider the expression, "there may be some excuse for their employment," as meaning the same as "be justifiably employed," particularly since the drift of the whole sentence is simply this:—That whatever excuses may be urged for their employment elsewhere, none can be pleaded in Cheltenham. As I did not and do not intend to be an apologist for the use of quack medicines at all, I need make no remark on your other observations. I trust you will do me the justice to insert this respectful protest against the forced and unfavourable construction you have put on an expression in my advertisement. I am, Sir, your most obedient servant,

J. BUCKMAN, Practical Chemist.
Medical Hall, Cheltenham, Sept. 1, 1840.

*** Mr. Buckman attacks us without justice. Our protest was directed against the administration of secret medicines in *any* part of the kingdom. We thought that Mr. B. was an apologist for their administration under *certain* circumstances. The following remark in his circular, copied verbatim, justifies our impression. However, we respect the example he has set to dealers in drugs and medicinal compounds:—

"In *certain* situations and under *peculiar* circumstances, when good medical advice cannot be procured, there *may be some excuse for their employment*; but in a place like Cheltenham, where professional talent of the highest order is within the reach both of the rich and poor, I am not willing, for the sake of gain, to contribute to the diffusion of noxious agents, which are productive of such pernicious, and often fatal, consequences to the community."

VENESECTION IN THE ARM.

To the Editor of THE LANCET.

SIR:—When I practised as a surgeon in a country town, I never thought of tying up the arm of a patient for bleeding, without first ascertaining the situation of the brachial artery; then, when I had applied the ligature, I felt for the pulse at the wrist, and if I found that absent, I knew that it was

useless to open the vessel, as it would not bleed. Young surgeons ought to be much obliged to your correspondent, Mr. Selwyn, for his friendly recommendation, although I much question whether he was not in error about the artery being wounded by his assistant; for, if so compressed as not to present the pulsation, when so superficially situated, it would not have bled at all, and if really wounded, I doubt its power of reuniting; most likely it would have produced a spurious aneurism. I, therefore, have no doubt that it was a vein lying directly over, and in contact with, the artery, thereby occasioning the blood to flow *per saltem*. I am, Sir, your obedient servant,

A Retired Practitioner.

Aug. 24, 1840.

DESPOTISM *versus* PHRENOLOGY.

We have met, on the anniversary of the birth-day of Dr. Spurzheim, to celebrate the institution of the Phrenological Society of Boston. In addressing an American audience, the speaker enjoys the inestimable advantage of breathing the air of liberty; and only in such an atmosphere can phrenology flourish. Napoleon, on his throne, sustained by five hundred thousand armed men, and ruling over the prostrate continent of Europe, feared philosophers who investigated the laws of mind and morals. He hated metaphysicians, moralists, and even jurists; all, in short, who sought to analyse the nature of man, with a view to discover his rights as well as his duties. He disliked phrenology in particular, and gave significant hints to Cuvier and other men of science, of the French capital, that they should lend no countenance to its doctrines. When the mental philosopher speaks of man's intellectual powers, as instruments bestowed on him with the injunction, "*Try all* things, and hold fast by that which is good;" when he unfolds sentiments of benevolence and justice, under the inspirations of which men feel that they have rights to enjoy, as well as duties to perform; when he proclaims that all terrestrial powers are bound by the dictates of these emotions, and that God knows no distinction between the prince and the peasant, then the philosopher becomes odious to the despot, whose maxims of government will not sustain this searching analysis. The Emperor of Austria forbade Dr. Gall to lecture, and virtually banished him from his dominions. The subjects of Austria and Prussia say, "phrenology is the philosophy of a free country; here it cannot flourish."

It is now thirty-eight years since Dr. Gall stood alone in the world as the author and the champion of the new philosophy. The Emperor of Germany, urged by the Church of Austria, issued an edict, which was intended to suppress the doctrine. On the 9th of January, 1802, Dr. Gall presented a respectful remonstrance to the Government of his native country, showing the beneficial applications of his discovery, and praying to be permitted to continue to teach it in public lectures. His petition contains these memorable words:—"As my doctrine on the functions of the brain has been taught to several thousand hearers, and as it has been spread abroad among a still greater number of persons by the sale of Froriep's treatise, in three editions, and by means of smaller notices, in the German, English, and French journals, it is no longer in the power of any human being to arrest its progress." The Emperor was inexorable; Dr. Gall, in the forty-fifth year of his age, and in possession of a high and lucrative practice as a physician in Vienna, went into voluntary banishment, rather than remain silent. And who is now victorious? The Emperor sleeps in the tomb, and so does Dr. Gall; but every word of these prophetic lines is already realised. Look at phrenology in France, in Britain, in America; it already directs lunatic asylums, it presides over education, it mitigates the severity of the criminal law, it assuages religious animosity, it guides the historian, and is a beacon light to the physiologist, and already has it incorporated its nomenclature with the language of these countries. Who now reigns? The Emperor, or the spirit of Gall? Francis of Germany, is an uninteresting individual of the human race. Dr. Gall stands forth, the equal of Copernicus, Galileo, Harvey, and Newton; or, if discoveries are to be estimated by their consequences, he will one day be awarded a place in the temple of Fame, more elevated than those assigned even to these illustrious men!—*Dr. Combe's Address at Boston, U.S.*, Dec. 1839.

CHINESE SURGERY.

We have been favoured by Mr. Lay with the following remarks upon Chinese surgery.

The upper eyelids of a Chinese are very apt to turn inwards, from the action of a redundant fold of the integument, which by its attachment to the lateral declivity of the nose pulls the lid in that direction. The native doctors attempt to remedy this by grasping the fold between two slips of bamboo, which being tightly fastened at their ends, perform the office of a ligature. The confined portion sloughs off, and the lips of the wound soon adhere; but as the eyelid is not sufficiently elevated to lift the ciliæ off the eyeball, little good is effected by this painful and unsightly operation. Several of these cases have been seen at the hospital

in Canton, but not one that did any credit to the operator's prudence.

To the edges of a hare lip they sometimes apply escharotics till the parts slough, and then bring them together, and keep them in that position till they adhere. The specimens that fell under the notice of Dr. Parker, showed that the surgeon had performed his work under very unfavourable circumstances. In one case the upper lip pressed tightly upon the teeth, while the under lip protruded, like a spoon or a spout, beneath. In another, the two sides of the upper lip seemed to be of no kindred, one side being elevated above the other.

CASE OF

COMMINUTED COMPOUND FRACTURE OF THE FRONTAL BONE.

Extending to the Ethmoid, Sphenoid, Nasal, and Superior Maxillary Bone,

WITH LOSS OF BRAIN,

The Patient surviving 12 *days.*

To the Editor of THE LANCET.

SIR:—The following severe accident occurred to a private of H. M.'s 29th Regt., during the passage of the detachment in my medical charge from Woolwich to Leith, and I think may be worthy of notice from the severe nature of the injury, and from the remarkable insignificance of the constitutional derangement in consequence. I am, your obedient servant,

GEORGE ALEX. COWPER, M.D.,
Assist.-Surg. 29th Regt.

Edinburgh Castle, Aug. 29, 1840.

8th July, Six o'clock, A.M., H.M.S. Vesuvius.—A private in H.M.'s 29th Regt., aged 29, was assisting in pulling a rope which passed through a block in the bulwarks on the forecastle, this morning, when the lashings of the block gave way and struck him with tremendous force on the centre of the forehead. I saw him five minutes afterwards (five minutes past six) in the following state:—Great swelling of the integuments covering the os frontis, with three lacerated wounds, from the centre of which a teaspoonful of broken-down cerebral substance was protruding. A probe passed into the cavity of the head, through a fissure formed by displaced bone; no depression, however, existed, nor did the constitution indicate any. Pulse 86, and full; pupil of right eye contracted; the left eye could not be opened from the swelling. Pulse fell to 70 on bleeding to 12 oz. Is quite sensible, and complains much.

Quarter to Seven, A.M. Has just vomited some cocoa he had been taking over-night, and from the exertion brain is now protruding at all the openings. Is drowsy, but when aroused becomes fretful and irritable. Passed the catheter, and drew off ten ounces of urine; administered a powder, containing half a drachm of jalap and two grains of calomel.

Half-past 8. More brain protruding, which has been wiped away. Nine, A.M. Brain continues exuding; has slept a quarter of an hour; respiration slow and gentle. Is now awake, and very irritable, attempting to tear off the lint. Three drops of croton oil, with half a drachm of jalap, to be taken directly.

Three, P.M. No change; bowels not moved; is very irritable; blood and brain exuding from the wound. Bled him to ten ounces; three drops of croton oil to be repeated in one ounce of castor oil. Seven, P.M. Bowels still confined.

July 9. Eight, A.M. Has slept tolerably. Repeated the croton oil with half an ounce of castor oil. About ten, P.M. passed his urine; no motion from the bowels; talks at times incoherently, but is not in such stupor as yesterday. Pulse 76; tongue brown; wounds filled with cerebral matter and blood. Nine, P.M. Was removed from H.M.S. Vesuvius, before which his bowels were moved three times, being the first time since the injury. Is now in the Castle Regimental Hospital, and has not suffered by the removal.

10. Somewhat easier.

11. Eight, A.M. The swelling having somewhat diminished, a distinct crepitus is to be felt over the left eye. Has taken tea and bread; pulse 74; bowels open twice; ordered him an ounce of castor oil. There was no material change until the 14th, when he became restless and incoherent; skin very dry and hot; tongue furred; bowels confined; gave him three grains of acetate of morphia, with an ounce of castor oil.

On the 17th, an abscess was opened in left eyelid. On the 18th; the fever and occasional delirium continued the previous night, and that morning he was quite insensible, and in a profuse perspiration. He rapidly sunk, and died on the 19th, at half-past 3, A.M., being twelve days after the injury.

Sectio Cadaveris, 32 *hours after death.*
July 20, 1840.

External appearance:—Body muscular, and well-formed; ecchymosis of dependant parts; a deep semicircular depression, three inches long, extending from the highest part of forehead to the left orbit, not visible during life from the swelling. On removing the scalp, the whole of the left side of the frontal bone was found smashed. An irregular piece of bone, three inches long, was isolated, and several smaller pieces nearly so. The fracture includes the os planum of the ethmoid bone (the crista galli, too, could be moved), the orbital process of the sphenoid bone, the nasal bone, and the nasal plate of the

superior maxillary of the left side, the lobe of the brain corresponding to the injury, was disorganised, and infiltrated with pus. The pericranium was highly ecchymosed; but the dura mater and brain, not in the vicinity of the fracture, were quite in a natural state.

RESTORATION OF LOST PARTS.

By M. Lisfranc.

Destruction of the whole of the Lower Lip and Part of the Cheek; Restoration by a Flap of Integument from the Neck.

The patient, a man 55 years of age, of sanguine temperament, was admitted into the Maison de Santé, Rue Marbœuf, on the 20th of June, 1840.

About ten years back he observed a pimple on the middle of his chin, which was removed by incision and cauterisation with arsenical paste. At the end of three years two excrescences, similar to the first, made their appearance near the angles of the mouth. They yielded to the same kind of treatment, but were followed by suspicious-looking ulcerations, attended with lancinating pains, and showing a disposition to spread. The patient had never suffered from syphilis, and none of his family were affected with cancer.

The cause of the disease is probably the habit of smoking, and drinking alcoholic liquors, inasmuch as several persons living in the same district with himself, and addicted to the same practice, are suffering in a similar manner. It is, moreover, to be observed, that the patient has exposed the lip, in its ulcerated state, to the most rigorous weather, without using any protective covering. The ulcerations have also been increased by the mistimed application of irritating remedies. Under these circumstances the prospect of cure, from operative procedure, offers every hope of success.

At the present time his constitution is good, the vital organs perform their functions regularly, and he regards the anticipation of the operation with fortitude. The whole of the lower lip, as far as the inferior border of the lower jaw, is gone; the bone is not cancerous, but seems somewhat hypertrophied; the glands in the neck are not affected.

June 28. M. Lisfranc removed, by a semilunar and two horizontal incisions, the whole of the diseased edges. The cut surface was very vascular, and required the ligature or torsion of ten small arteries. The operator then made an incision along the middle line of the neck to the thyroid cartilage, and dissected back a flap at either side. Finding the bone more affected with the disease than was at first thought, he removed several of the teeth, and cut off the alveolar process with the bone-nippers. The bone was somewhat softened, and presented a slaty hue. He then cut off the projecting angle of the symphisis with a saw, to remove the danger of its projection between the flaps, in the progress of the cure. The flaps were now brought over the bone, and were found to supply perfectly the place of the lost lip. The edges of the flaps were brought together by means of fourteen pins, armed with the twisted suture.

29. A blush of erysipelas on the left side of the neck. Apply hog's lard to the inflamed surface. Venesection.

July 1. M. Lisfranc removed all the pins, with the exception of those which held the angles of the wound. The erysipelas has extended to the right side. Continue the hog's lard upon compresses.

2. The rest of the pins removed; union by the first intention is complete throughout.

4. Two excavations have appeared at the angles of the mouth, from which a quantity of pus is pressed out several times during the day.

5. M. Lisfranc opened a small abscess situated at about an inch below the chin; he also made two counter-openings for the purulent excavations above described.

7. A counter-opening was made externally to each external jugular vein, to relieve the cellular tissue of the neck of an extensive purulent infiltration.

10. In pressing upon the side of the neck, a kind of cord was felt beneath the integument, which was taken at first for the omo-hyoid muscle. On examining the counter-opening, some dead cellular tissue was seen, which, on being removed with the forceps, was found to be part of the rounded mass mistaken for the muscle. From this moment the erysipelas wholly subsided, and the purulent excavations became filled up with granulations. The alveolar border was touched for some time with the nitrate of silver, and protected from the irritation of the saliva by a compress, covered with an ointment of acetate of lead. The patient quitted the Maison de Santé with little deformity existing, and perfectly cured.—*Gazette de Hôpitaux*, Aug. 20.

APOTHECARIES IN RUSSIA.

But, in this analysis of the more respectable part of the population of a Russian town, we have omitted one conspicuous person—the apothecary. He is always among the wealthiest in the place. None can sell drugs without a patent; and as only one or two in a provincial town, willing to gain their bread in this way, have influence enough to obtain the emperor's permission, there is but little opposition in the trade. Nothing is paid for the patent, so

that the free profits of such a business are often very large. A German, whose daughter is married to the second apothecary of a government town near this (Koursk), told us that he had seen his son-in-law's books, and seldom found the profits less than 32,000 rubles (or more than £1200) a-year; while the first apothecary, as our informant asserted, draws 50,000 rubles, or £2000 a-year. He instanced a smaller town, in which the two dealers in physic draw 15,000 and 25,000 rubles respectively. There are other parts of the continent where apothecaries are equally wealthy; as in the German towns, where they are always among the richest citizens.—*Bremner's Excursions in the Interior of Russia.*

LIQUOR HYDRIODATIS ARSENICI ET HYDRARGYRI.

This medicine, proposed by Mr. Donovan for the cure of psoriasis, lepra, and lupus, has been tried by several eminent surgeons of Dublin, and has been found most effectual in these troublesome cases. Of several letters addressed to Mr. Donovan, forming part of that gentleman's statement of the medical effects of the medicine in the "Dublin Journal" for September, we select one from Dr. Irvine, in illustration:—

"In the beginning of November I first saw him; he told me he had got an eruption over his skin, which made its appearance about a month previously.

"On examination I found his legs and arms thickly covered with large spots of psoriasis, much inflamed and very itchy. He said they were increasing rapidly in number, and that some had made their appearance on his body and forehead during the last few days.

"I directed that he should be blooded to twelve ounces, and ordered him some aperient medicine which he was to continue for a-week. These means afforded him some relief; the eruption was less itchy and less inflamed. I directed him to continue the aperient medicine, and to take twelve drops of liquor potassæ three times daily.

"It would be tedious to relate the entire history of this case; it is sufficient to say, that he took various remedies, Dulcamara, and Plummers' pill among the number, without any benefit, unless temporary relief from itching.

"From the experience of many cases which I had treated without permanent benefit at the Maison de Santé, with Fowler's solution of arsenic, iodine, and mercury, separately administered, I was inclined to doubt their efficacy; I therefore determined to try the compound of these three, which you, in conversation with me about this time, had mentioned. My patient had now been upwards of three months under treatment, and to say the truth, was little the better of all the medicine he had taken. He was most anxious to try any thing I could recommend, and this anxiety was most fully participated in by his wife, who had now been banished upwards of four months *de thoro marito*. On the 11th of February we commenced the solution, on which day I gave you an opportunity of seeing this gentleman, and examining his skin, in order that no doubt might exist as to the extent the disease had acquired.

"He took a draught containing 3 ss. of liquor hydriodatis arsenici et hydrargyri three times a-day from this date to the 28th April. Twice during that period I found it necessary to stop the medicine for two or three days, and to give an opening draught, from his having complained of headach and sickness of stomach.

"On the 28th of April you again examined him, and the disease was quite cured, nothing remaining but a stained appearance of the skin. It appears then that during the period mentioned he took 114 draughts: the total quantity of the liquor taken was seven ounces and one drachm; and when we calculate the quantity of white arsenic contained in all, we shall find it to be about seven grains, with fourteen of protoxide of mercury, and forty-four of iodine acidified.

"I may add, that before writing you this note, I communicated with Mr.——, who is now residing in the country, he says he is quite free from the disease, two stains only remaining on his legs."

BOOKS RECEIVED.

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A Series of Anatomical Plates in Lithography; with References and Physiological Comments, illustrating the Structure of the Different Parts of the Human Body. By Jones Quain, M.D., and W. J. Erasmus Wilson. Division 4. Viscera. Fasciculi 82, 83. Taylor and Walton, 1840.

Medical and Physiological Commentaries. By Martyn Paine, M.D., A.M.. Vol. II., 8vo. New York; Collins and Co. London; John Churchill, 1840.

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